MIRPUR 12 GOVERNMENT COLLEGE AND UNIVERSITY

Bridging Communities through campus Design

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COURSE TITLE:

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ABSTRACT

College campuses in Dhaka city are extremely introvert with boundary walls blocking all kinds of interaction between the two environments. On the other hand various private institutions also exist, where there is no student plaza. In the present context of Dhaka city, its' urban fabric constitutes of uneven pedestrian management. There is constant flooding of roads and pedestrian walkways with people, vehicles, vendors, beggars, garbage dumps etc. Thus every site needs to give back to the urban fabric similarly as it takes away when a form is autonomously placed. This paper aims to explore the ways for proper execution of public spaces within a college here in Dhaka, which is currently under the name, "Bongobandhu university college". The study will constitute various case-studies and historic evolutions, both native and foreign to discover the appropriate typological, morphological and functional dimensions for the school. Various architectural theories on public plazas and philosophy stated by renown intellectuals on designing an educational institution will be reviewed along with site area mapping in order to revolutionize a new typology of how schools should be in Dhaka. The conclusion would be a structure viable in terms of sustainability of environment and social structure, inclusive of proper public environment for street users, being able to adapt to future needs.

AKNOWLEDGEMENT

I have been able to Complete this project to the maximum level of acceptance with the advice and guidance of our studio Instructors, Mohammad Habib Reza Sir, Abul Fazal Mahmudun Nobi Sir and Iftekhar Ahmed Sir.

I would also like to express my deepest gratitude to my parents, who have supported me throughout the semester.

CONTENT

CHAPTER 1

INTRODUCTION

1.1 Project Brief

The institution- 'Bongobondhu University College' started in 1994, in a small building called "Bhaba bari" in Mirpur 10. It was founded by Hajji Hannan, MP Camal Ahmed Mojumdar and Azizur Rahman. It was a private institution then. The founders opened the institution in the name of the father of the nation, who was their greatest inspiration. They wanted to spread knowledge-the most important basis of a developing nation in the name of their inspiration. They believed that knowledge is power and to build a powerful nation, they had to start with education.

Now the project land and scale imposes more responsibility on the school, There are rehabilitation projects in plans and mass housing projects. A neighborhood will grow around it influenced by it. hence,

Project Title: Re-defining public college in Dhaka

(statement: Public colleges in Dhaka, does little to contribute to the urban surroundings, infrastructure and neighborhood. Architecture stands to be inclusive and thus redefining conventional public college designs, would work to serve the neighborhood at large.)

Client: Government (Education Engineering Department)

Site: The site is deep within a residential environment, which is developing. The area still lacks development plans and defined urban functional allocations. The school being at a node of two 100 ft two-way roads may be a future landmark. The water body behind it, leading away from it forms a vista from the site. (see fig.3)

1.2 Motivation

Kofi Annan said Knowledge is power, Information is liberating, Education is the premise of progress, in every society, in every family.

Knowledge and education ignited the idea and dream of a liberated nation in the mind of Bongobondhu. His Knowledge and acquired intellect was the weapon and shield in the war of liberation. He did not use his education only for himself, but lead a nation to freedom, by giving them hope, my making them believe in themselves to regain their self-respect.

If one intellect could bring about such a revolution and the eventual birth of a nation, then education can bring about a storm of revolutionists.

1.3 Thoughts behind the concept

The college, now has a huge area in Mirpur 12- the surrounding area is under developed. There are different types of urban scenarios surrounding colleges in Dhaka. The site surroundings for this college includes, mass housing (residential area) and slum rehabilitation areas for nearby industrial area in pallabi. There are various schools and a few colleges in the Mirpur area in close proximity to the site but, none of them are at such a scale. this public college has the potential to be an archive of knowledge for these schools and also for the neighborhood. The slum rehabilitation projects can also share knowledge from this archive. A small scale public library, a public computer lab and college shifts held afterhours for classes for the underprivileged children living in the rehabilitation project nearby, may be set up. Also a home economics lab, on further future increase in departments, may consist of labs to train the low-income group handi-crafts. A socially integrated working college will work to develop the surrounding community through knowledge, education and learning. This project could thus redefine conventional colleges, to be more socially inclusive with surroundings.

1.4 Rationale of the project

A college away from the city hassle in such a quiet and serene environment poses ideal conditions for nourishing young minds within the rules of academia. The functions of the school may also serve the growing neighborhood, which would be housing in the suburbs. Peaceful quiet living away from commercial functions need complimentary mind work such as that found in a library. A small exhibition after school hours in the auditorium or quiet contemplation at the amphitheatre near the waterfront. The lack of precise planning of the area gives the college a responsibility to mold the surrounding cityscape and influence the neighborhood surrounding it. The presence of the college may also rise the economic value of the apartments or flats in the vicinity; a gradual growth of commercial belt may develop in place of the balurghat slum. The interior environment of the college must be able to cope with the possible commercial influence.ie. shield the learning environment from, while at the same time pose as an ideal public space for the neighborhood.

1.5 Aims and Objectives of the project

The following shows the objectives of the project:

- The college must serve the social classes existing in the surrounding neighborhood.

- It must provide an interior learning environment that is safe and undisturbed by surroundings, as well as be extrovert to the public after school hours.

- Above all it must develop in accordance to the initial ideals and purposes of the founders.

-Reasonable cost of maintenance.

1.6 Major programs (Tentative)

- Playground/ fields

-Monument

-Classrooms

-Labs

-Teachers staffroom

-Kitchen/Dinning

-Amphi/Auditorium

-Library

-Boys dormitory

CHAPTER 2

SITE APPRAISAL

http://www.mapsofworld.com/bangladesh/dhaka-city-map.html

fig 1

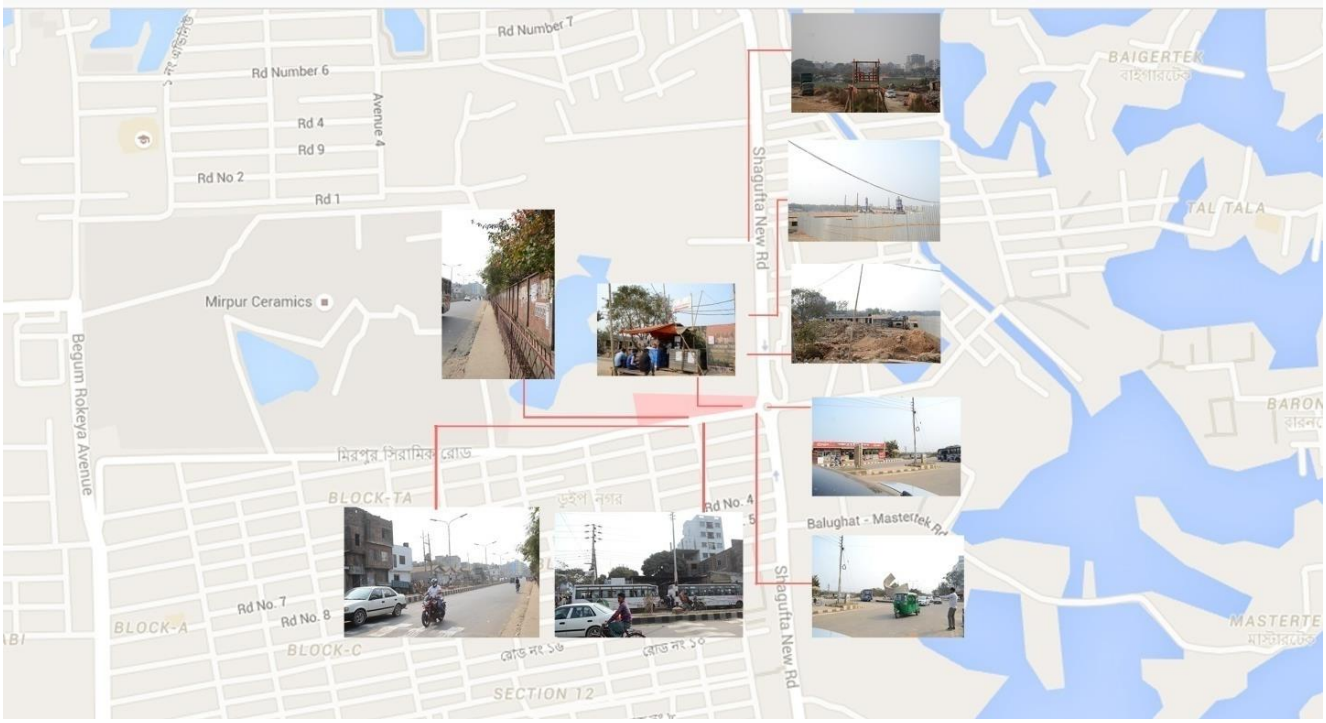


fig 2

The site consists of an area of 100,000sqft. It is situated beside a dormant node, which is predicted to take its concentrated form gradually as the urban area develops further around it. The site is around 2' lower than the road level. On entry into the site, an impression of a quiet, tranquil and peaceful natural meadow forms in one's mind. There are no looming buildings on the periphery, only trees. The school is functioning under the shelter of two built forms: one of the forms is a two storey 25' X 100' foot print building, with a corridor facing south and classrooms following next reducing the suns glare; the other form is an "L" shaped one storey building, with similar corridor to classroom sequence surrounding the inner right periphery of the site. the L shaped form has a poor tin shed roof, with no foundation for upper floors. This whole form is to be demolished for the new building plan. Trees have been planted in front of the buildings, giving partial shade to the corridors, as well as cooling the wind flowing through.

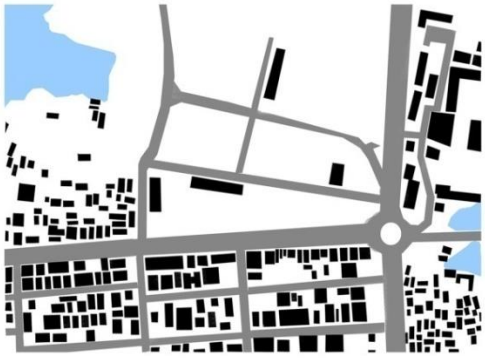
The college is in the process of being converted from private to government. Thus there is funding from the Education Engineering department for expansion of the school. There is

already another building under construction on the left side of the site, similar to the existing 2-storey building. It has a similar footprint compared to the others.

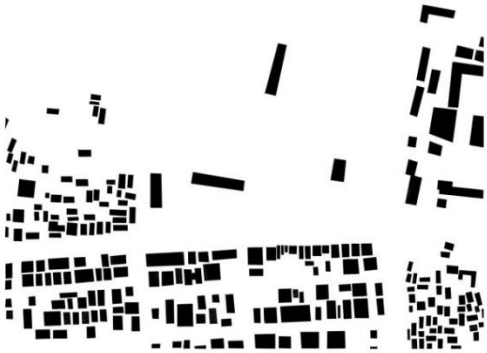
fig 3

CHAPTER 3

SITE ANALYSIS



ROAD



URBAN GRAIN

GREEN

fig 3

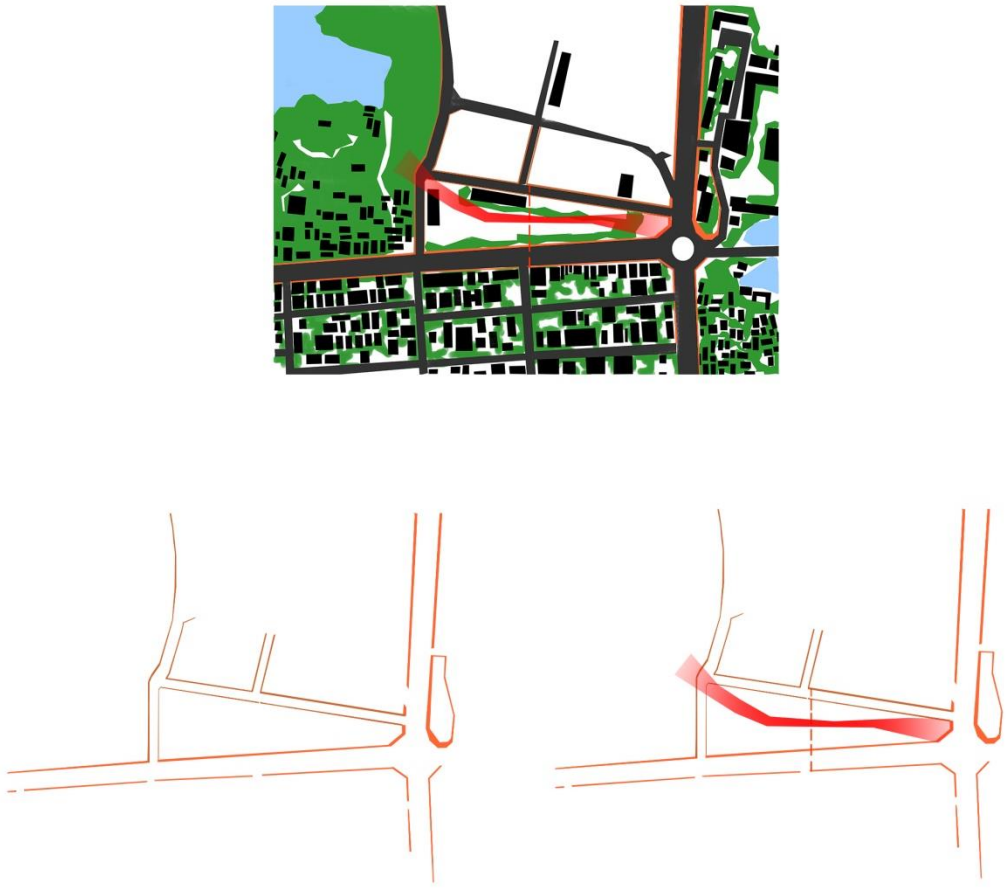


fig 4. Proposed Public passage connecting the high income community and low income community

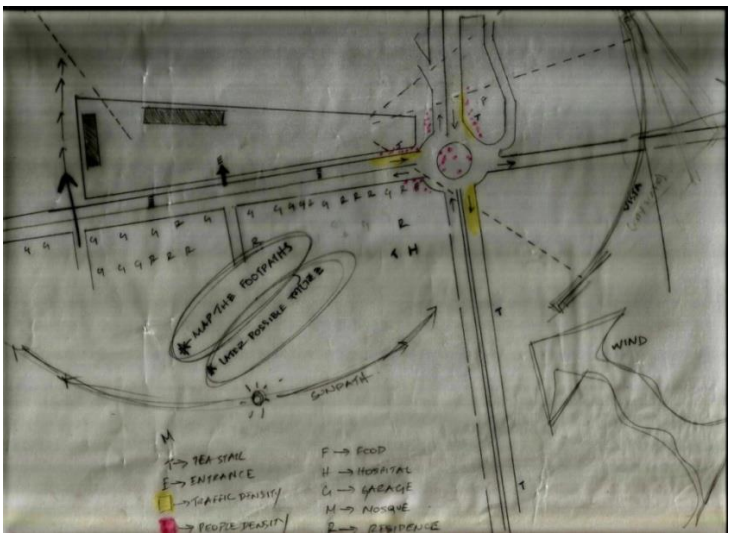


fig 5

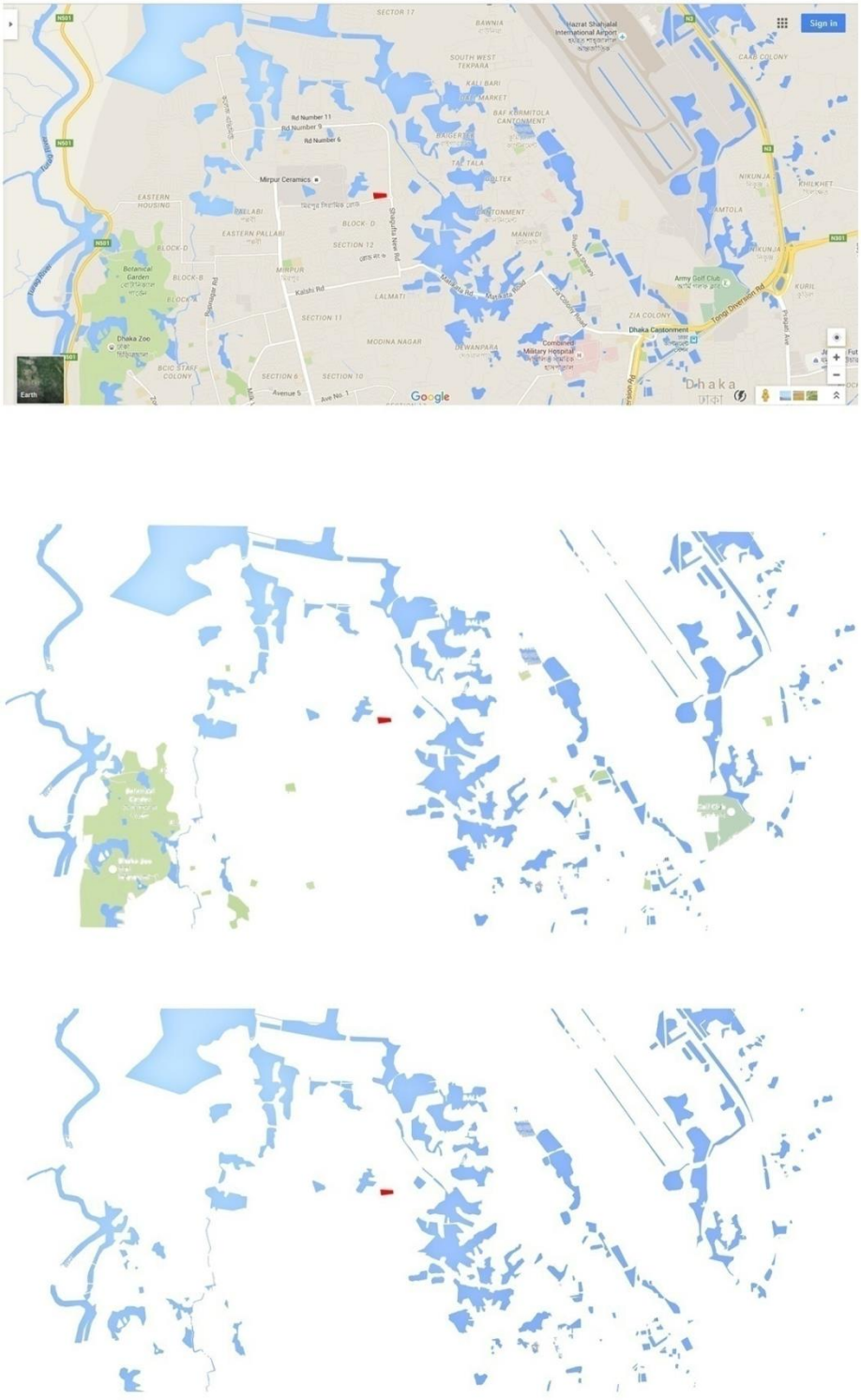
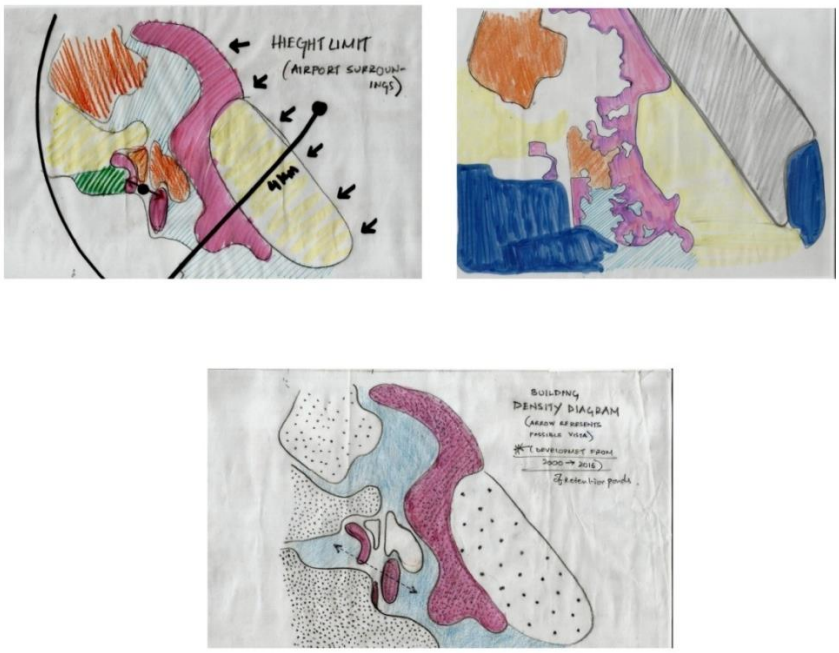


fig 6. Mapping the green and water bodies from a larger view, to understand visibility of a building on the site from a distance

fig 7. Possible future road scenarios



higher middle income housing

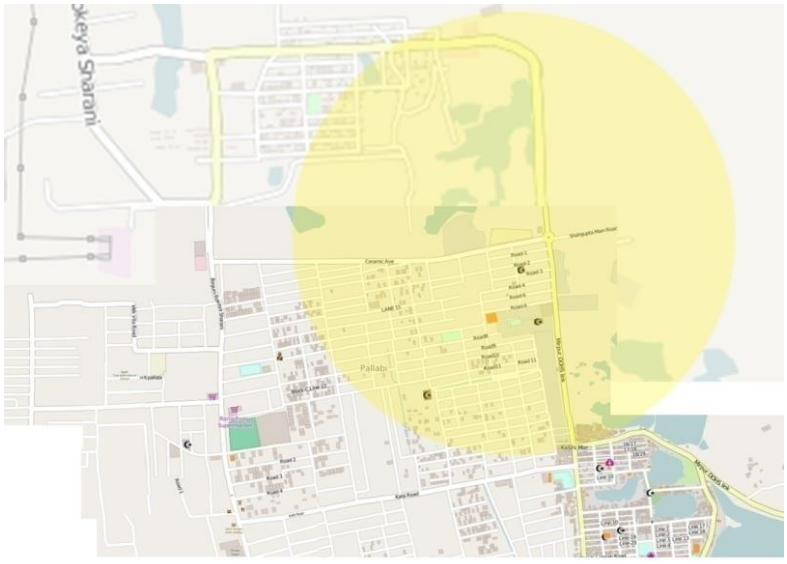
Lower middle income

Low income

Natural landscape

Airport

fig 8. Classification of landscapes, buildings and communities



Schools

Restaurants

Playgrounds

fig 9. 10 minute walking radius:

SWOT ANALYSIS

Strength of Site:

- Low rise slums give away to vistas from the 1st floor

- Water body nearby

- The site is exposed to the wind on the southeast

- Wind can reach the institution by cooling over water bodies

- Site lies along major transport route

Drawbacks of Site:

- Surrounded by rehabilitation lands

- Right beside road, hence noise pollution

- Existing buildings and functioning of school cannot be disrupted during construction

CHAPTER 4

CASE STUDY

1.1.SHIDDHESHWARI COLLEGE UNIVERSITY MOGBAZAR

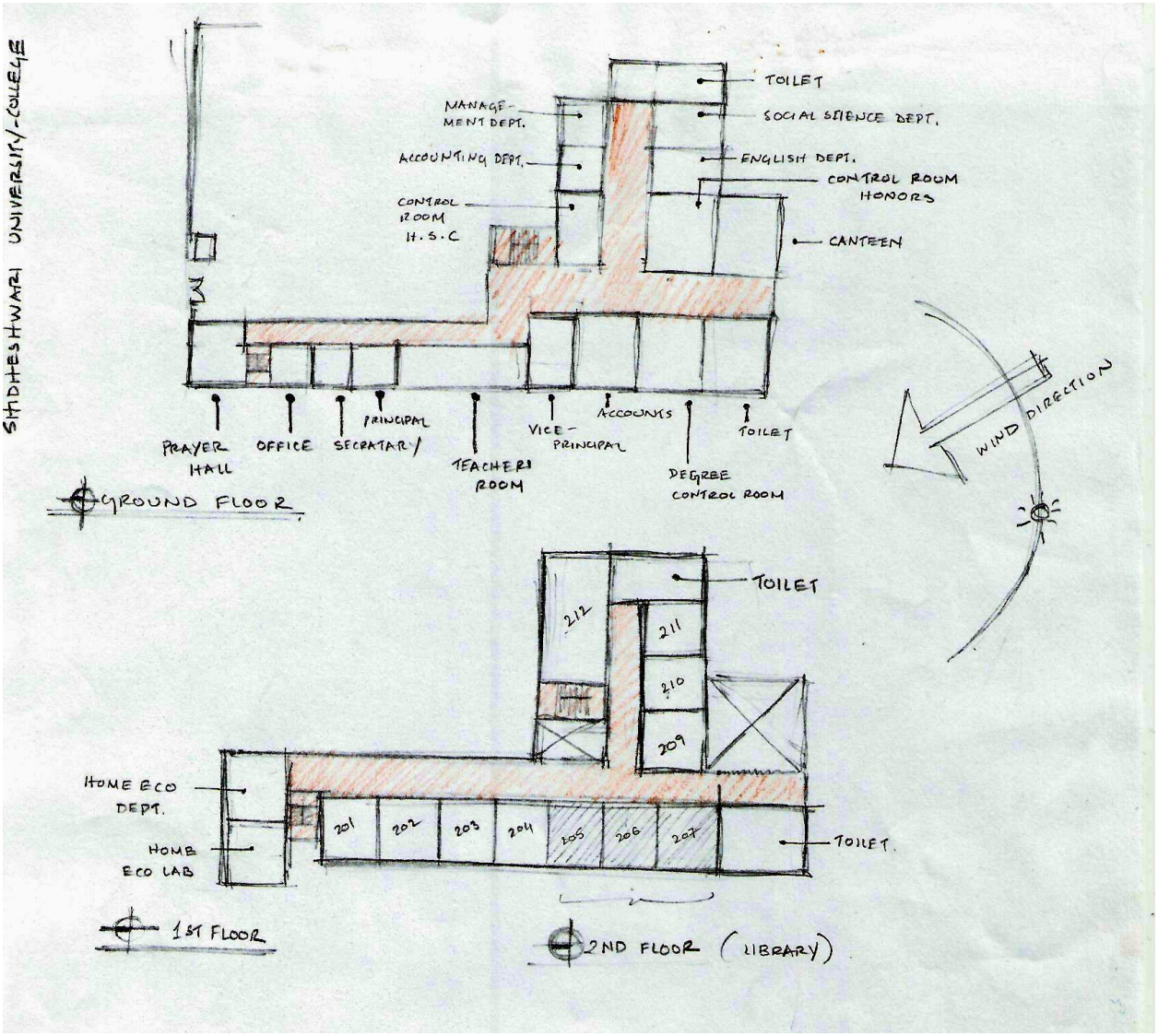
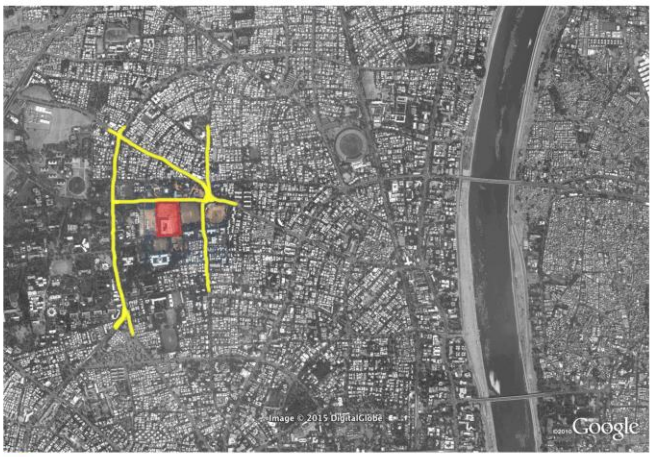


fig 10. Shiddheshwari College University

1.2.AHMEDABAD ENGINEERING COLLEGE



ROADS
SITE

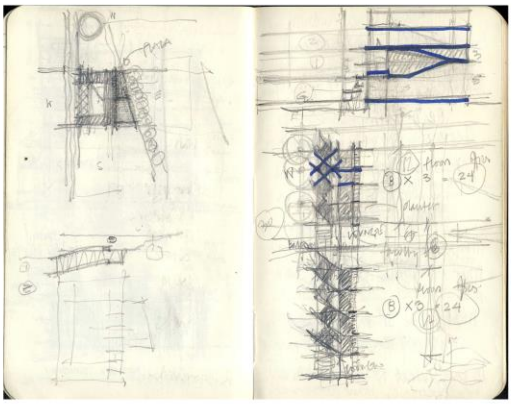
AHMEDABAD CLIMATE

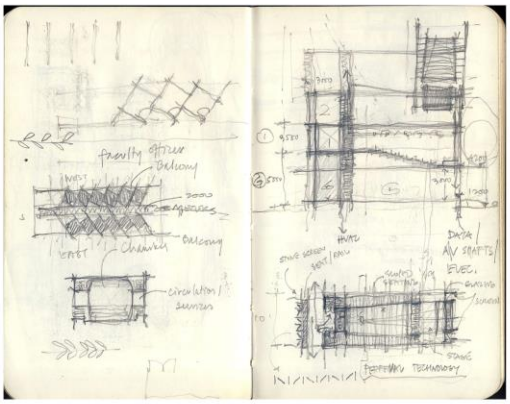
The weather is characterized by extreme hot and almost no rain from March to June. The average summer maximum is 41 degrees Celsius (106 °Fahrenheit). From November to February, the average maximum temperature is 30 degrees Celsius (86 °Fahrenheit). The Ahmedabad climate is pleasant and comfortable during this time

Monsoons sweep into Ahmedabad in mid July. During this time weather and climate in Ahmedabad is very humid. Monsoon continues till the month of Septem-:ber

.On average, the temperatures are always high
Most rainfall (rainy season) is seen in June, July, .August and September
Ahmedabad has dry periods in January, February, .March, April, May, November and December
.On average, the warmest month is May
.On average, the coolest month is January
.August is the wettest month
.March is the driest month

BASIC DESIGN SKETCHES





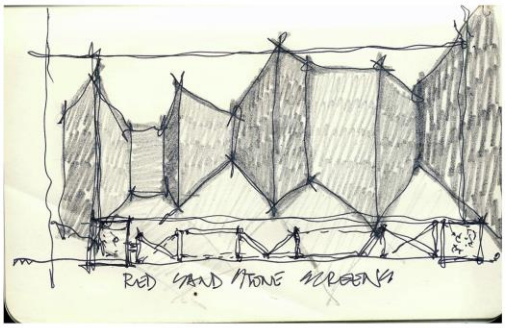
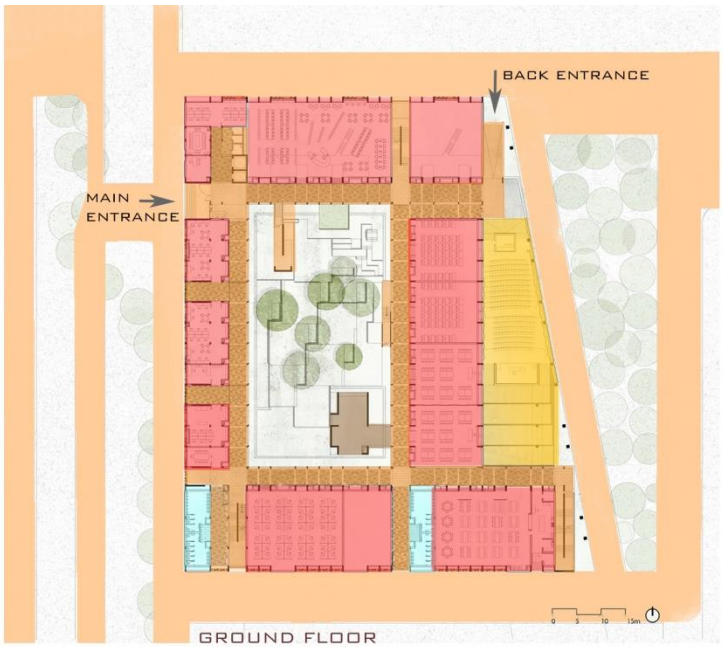


fig 11 and fig 12


BACK ENTRANCE
MAIN ENTRANCE
GROUND FLOOR

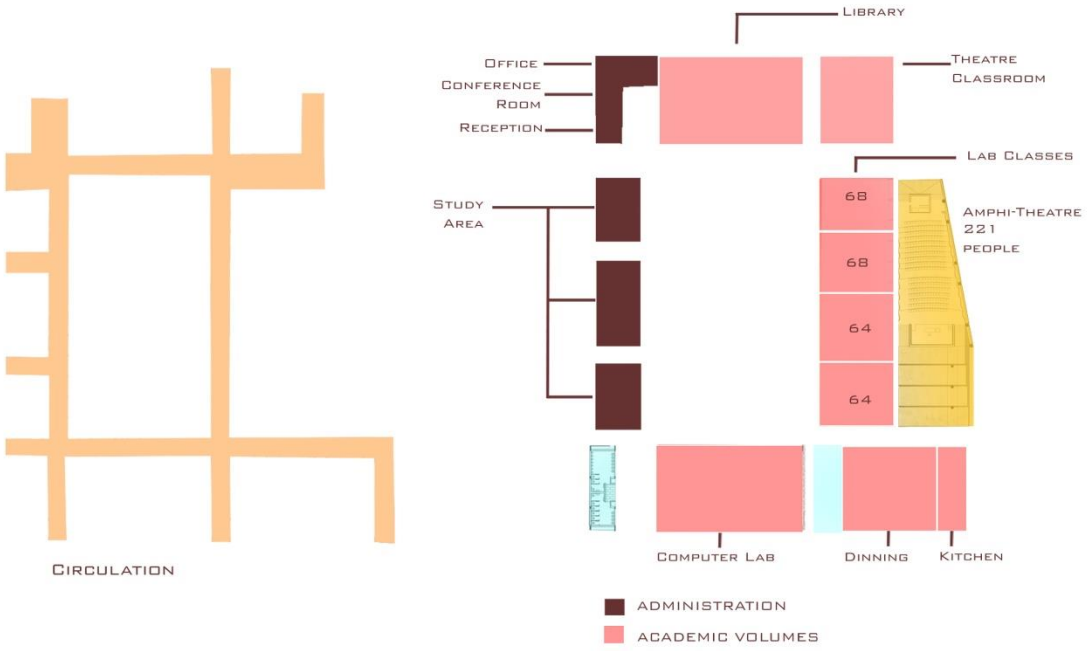

LIBRARY
OFFICE
CONFERENCE ROOM
RECEPTION
THEATRE CLASSROOM
LAB CLASSES
STUDY AREA
68
68
64
64
AMPHI-THEATRE 221 PEOPLE
CIRCULATION
COMPUTER LAB
DINNING
KITCHEN
ADMINISTRATION
ACADEMIC VOLUMES

fig 13

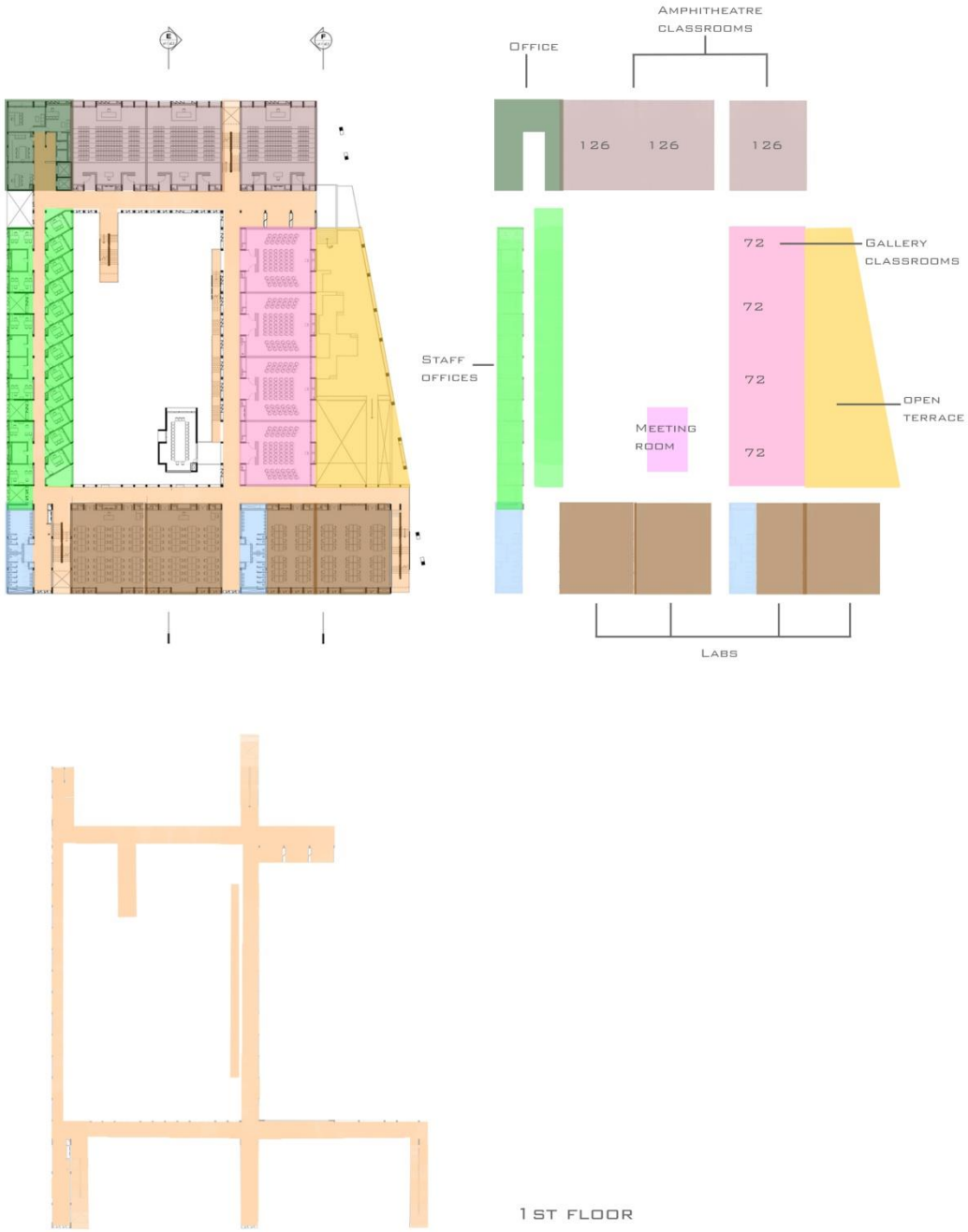

AMPHITHEATRE
CLASSROOMS
OFFICE
126
126
126
72
GALLERY
CLASSROOMS
72
72
72
STAFF
OFFICES
OPEN
TERRACE
MEETING
ROOM
LABS
1ST FLOOR

fig 14

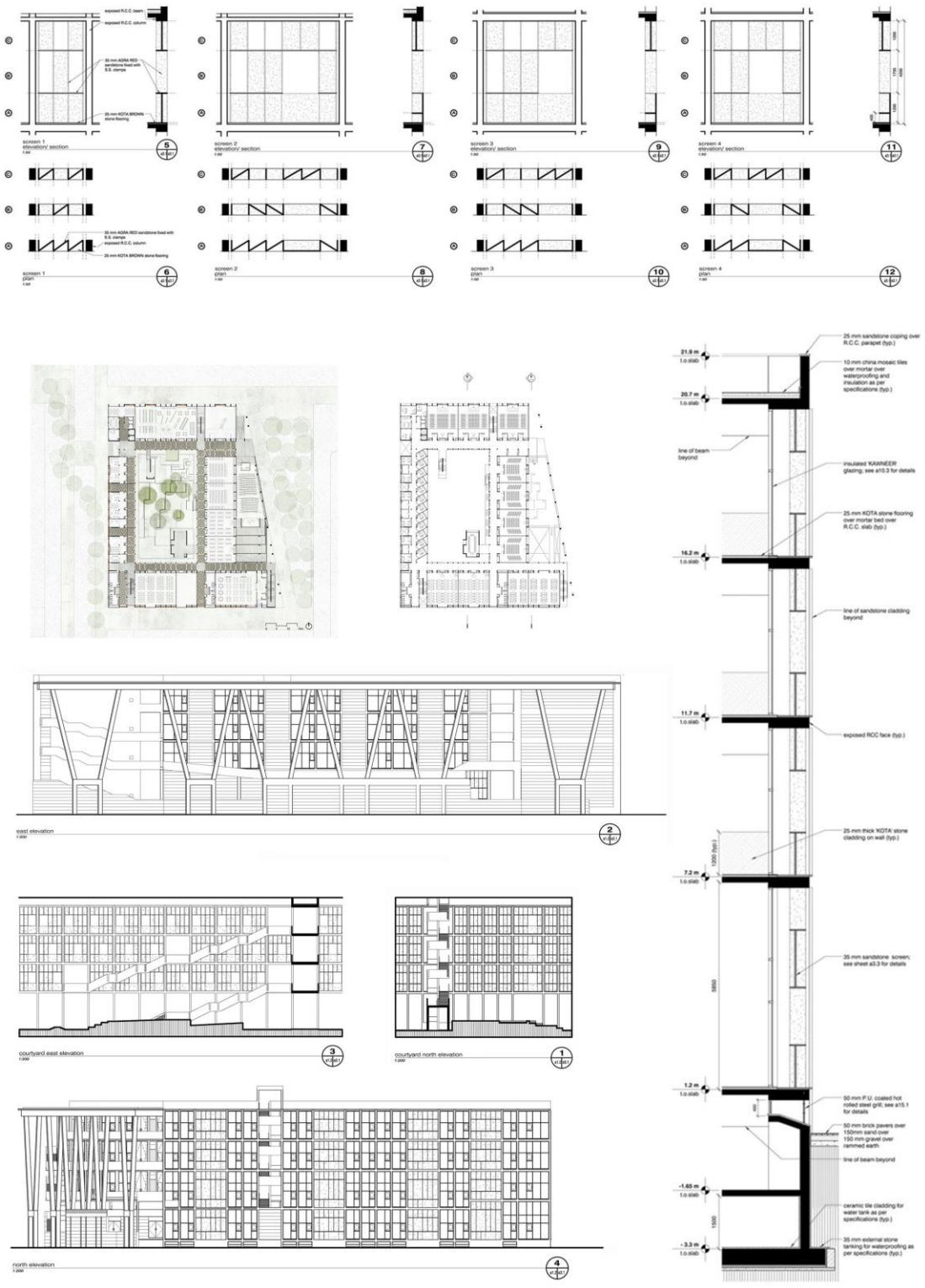
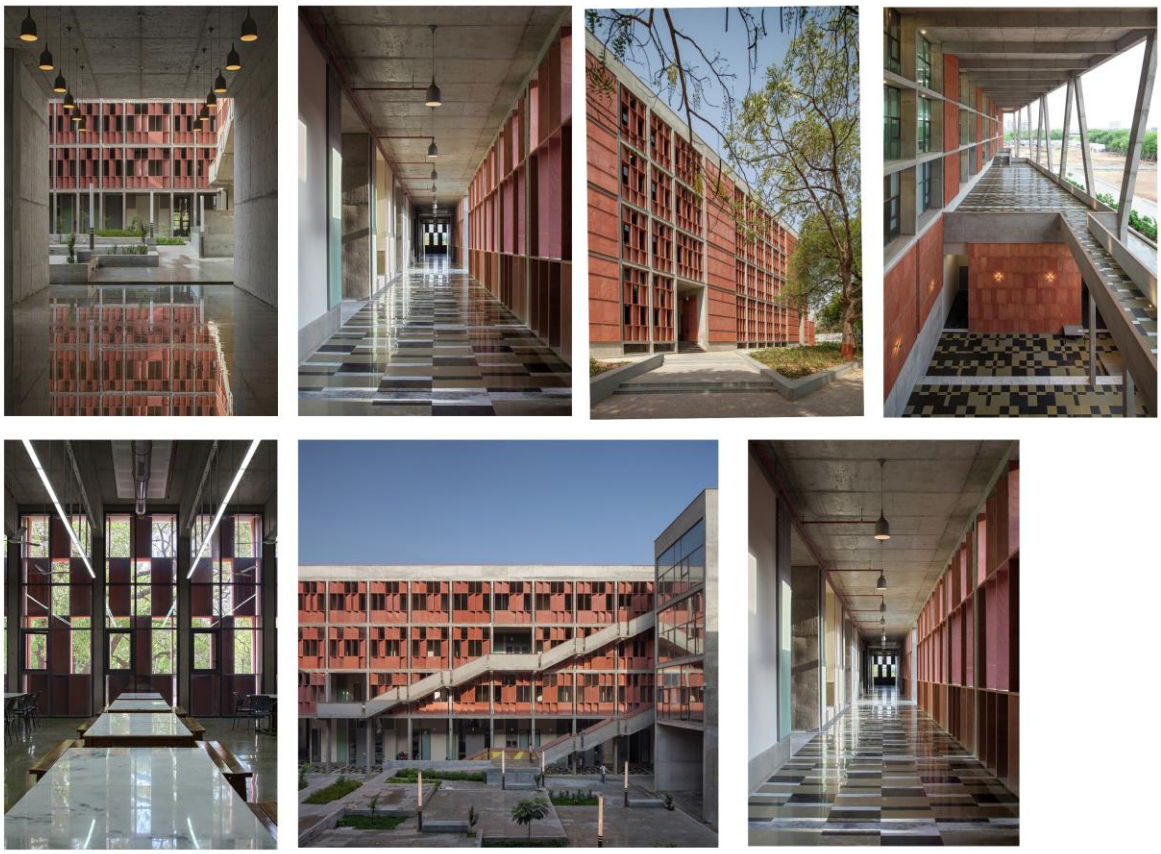

screen 1 elevation/ section
screen 2 elevation/ section
screen 3 elevation/ section
screen 4 elevation/ section
screen 1 plan
screen 2 plan
screen 3 plan
screen 4 plan
east elevation
courtyard east elevation
courtyard north elevation
north elevation
25 mm sandstone coping over R.C.C. parapet (typ.)
10 mm china mosaic tiles over mortar over waterproofing and insulation as per specifications (typ.)
insulated 'KAWNEER' glazing; see a10.3 for details
25 mm KOTA stone flooring over mortar bed over R.C.C. slab (typ.)
line of sandstone cladding beyond
exposed RCC face (typ.)
25 mm thick 'KOTA' stone cladding on wall (typ.)
35 mm sandstone screen; see sheet a3.3 for details
50 mm P.U. coated hot rolled steel grill; see a15.1 for details
50 mm brick pavers over 150mm sand over 150 mm gravel over rammed earth
line of beam beyond
ceramic tile cladding for water tank as per specifications (typ.)
35 mm external stone tanking for waterproofing as per specifications (typ.)

fig 15



COURTYARD
SAND BRICK FACADE
PATTERNEND FACADE PROVIDE POCKETS OF INSULATION OF AIR
THE USE OF CONCRETE, GIVES A COOL COLOUR AGAINST THE HOT TEMPERATURE
NATURAL LIGHT

fig 16

1.3.EMERSON COLLEGE LOS ANGELES

Architects: Morphosis Architects

Location: 5960 Sunset Boulevard, Los Angeles, CA 90028, USA

Design Director: Thom Mayne

Project Principal & Manager: Kim Groves

Lead Project Designer: Chandler Ahrens

Project Architect: Aaron Ragan

Area: 107400.0 ft2

Project Year: 2014

From the architect. Bringing student housing, instructional facilities, and administrative offices to one location, ELA condenses the diversity of a college campus into an urban site. Evoking the concentrated energy of East-coast metropolitan centers in an iconic Los Angeles setting, a rich dialogue emerges between students' ed-.ucational background and their professional futures

Fundamental to the Emerson Los Angeles experience, student living circumstances give structure to the over-all building. Housing up to 217 students, the domestic zones frame a dynamic core dedicated to creativity, .learning, and social interaction

Composed of two slender residential towers bridged by a multi-use platform, the 10-story square frame en-closes a central open volume to create a flexible outdoor "room." A sculpted form housing classrooms and ad-ministrative offices weaves through the void, defining multi-level terraces and active interstitial spaces that foster informal social activity and creative cross-pollination. Looking out onto the multi-level terrace, exterior corridors to student suites and common rooms are shaded by an undulating, textured metal scrim spanning .the full height of the towers' interior face

Looking to the local context, the center finds a provocative precedent in the interiority of Hollywood film studi-os, where outwardly regular facades house flexible, fantastical spaces within. With rigging for screens, media connections, sound, and lighting incorporated into the framework, the upper platform serves as a flexi-ble armature for outdoor performances, transforming the undulating scrim into a dynamic visual backdrop. The entire building becomes a stage set for student films, screenings, and industry events, with the Holly-.wood sign, the city of Los Angeles, and the Pacific Ocean in the distance providing added scenery

Anticipated to achieve a LEED Gold rating, the new center champions Emerson's commitment to both sustainable design and community responsibility. Defining the building's facades to the East and West, the residential towers .feature an active exterior skin

Responding to local weather conditions, the automated sunshade system opens and closes horizontal fins out-side the high-performance glass curtain-wall to minimize heat gain while maximizing daylight and views. Further green initiatives include the use of recycled and rapidly renewable building materials, installation of efficient fix-tures to reduce water use by 40%, energy savings in heating and cooling through a passive valence system, and .a building management and commissioning infrastructure to monitor and optimize efficiency of all systems

fig 17 (Source: Arc Daily)

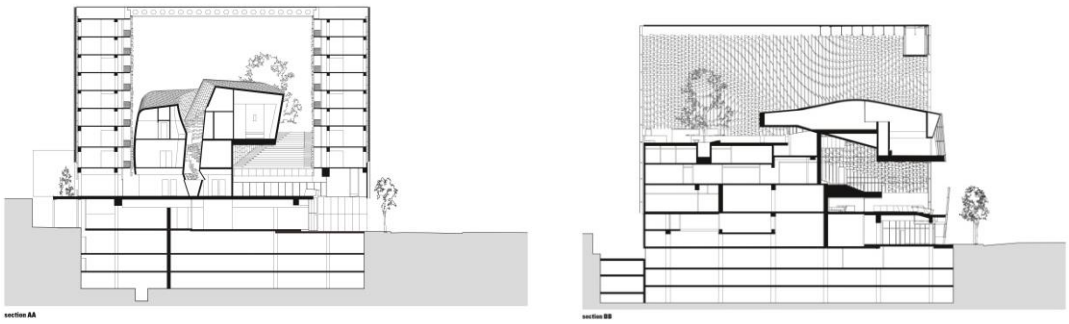

section AA
section BB

fig 18

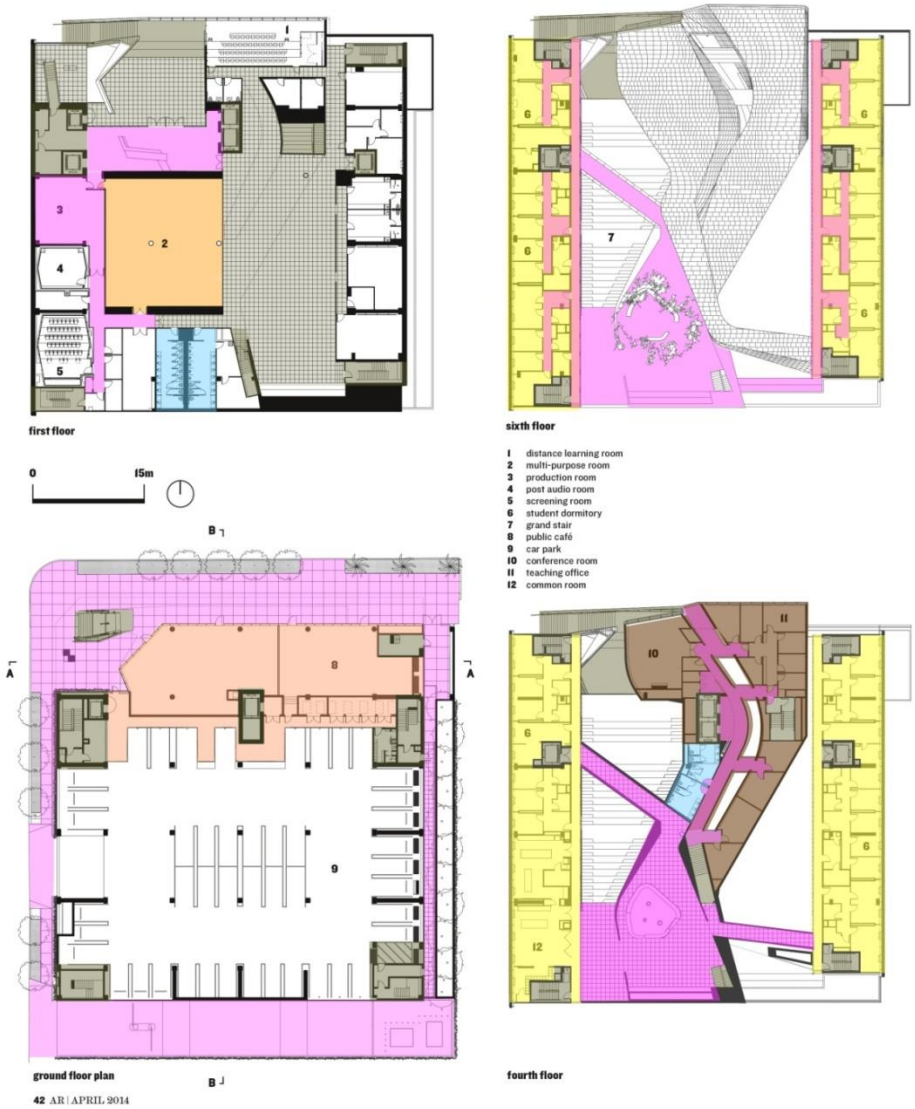
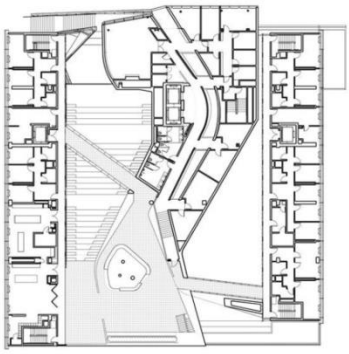

first floor
sixth floor
0
15m
1 distance learning room
2 multi-purpose room
3 production room
4 post audio room
5 screening room
6 student dormitory
7 grand stair
8 public café
9 car park
10 conference room
11 teaching office
12 common room
ground floor plan
fourth floor
42 AR | APRIL 2014

fig 19

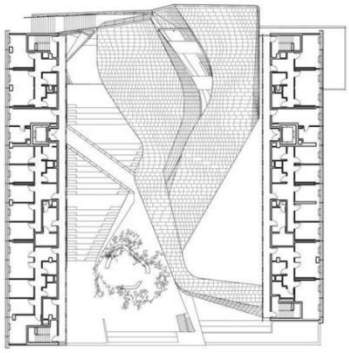
PLAN 03
EMERSON COLLEGE LOS ANGELES

50ft 0 N



PLAN 05
EMERSON COLLEGE LOS ANGELES

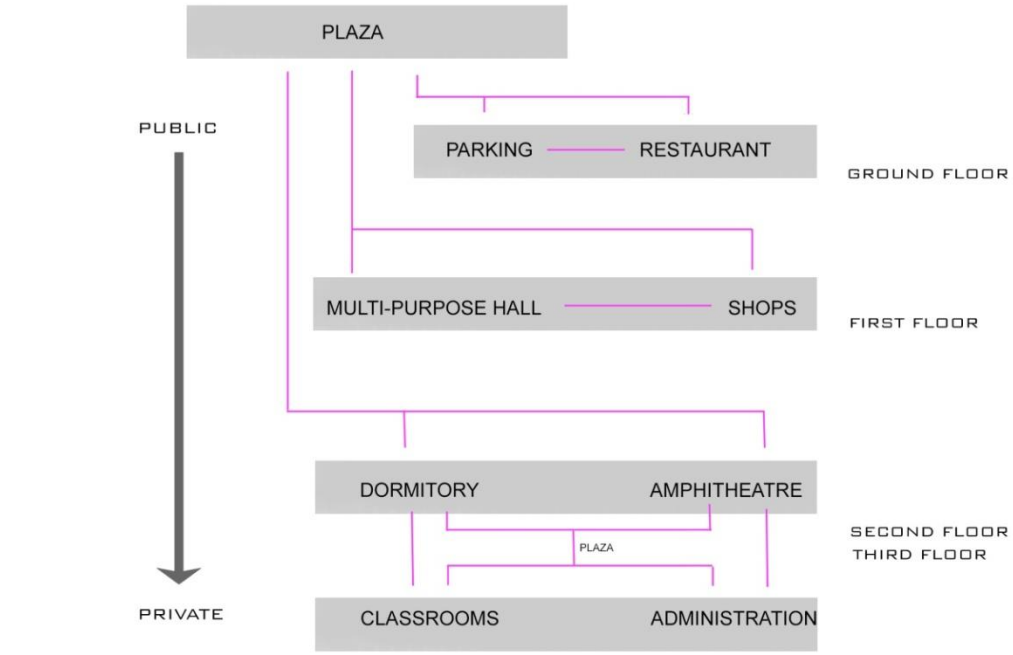
50ft 0 N

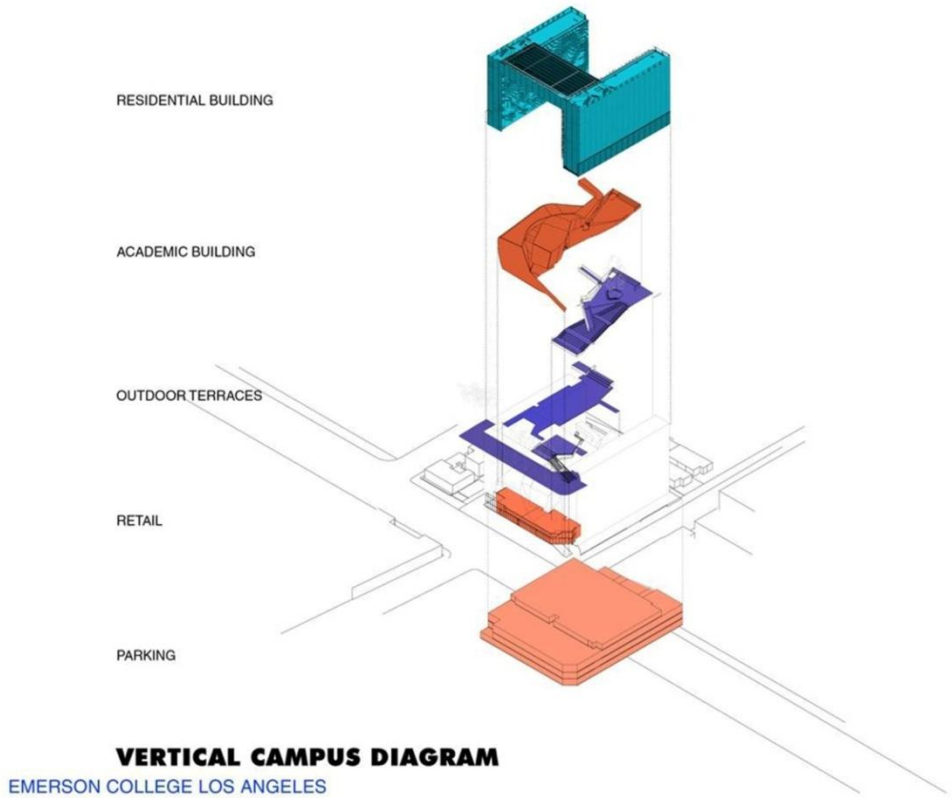


PLAN 07
EMERSON COLLEGE LOS ANGELES

50ft 0 N

fig 20





VERTICAL CAMPUS DIAGRAM

EMERSON COLLEGE LOS ANGELES

fig 21

1.4 AHSANULLAH UNIVERSITY DHAKA

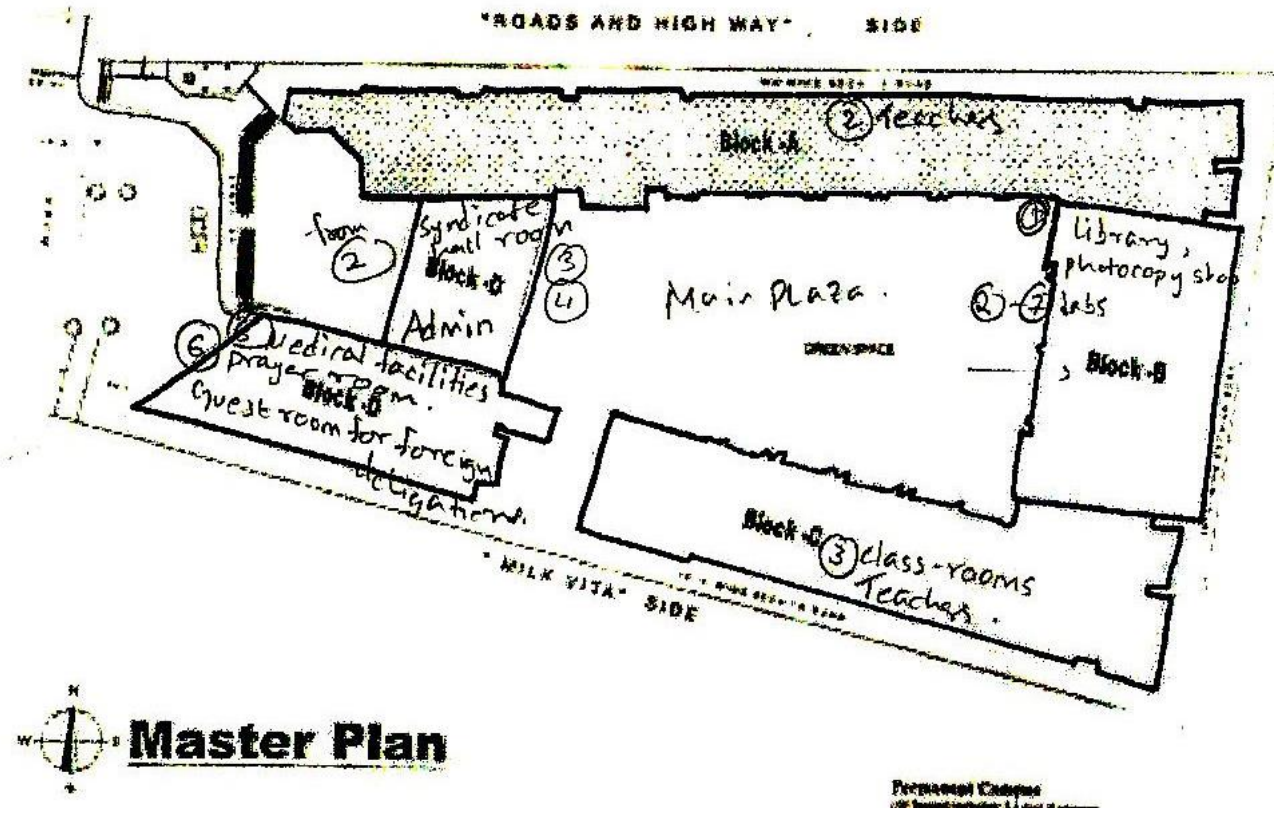


fig 22

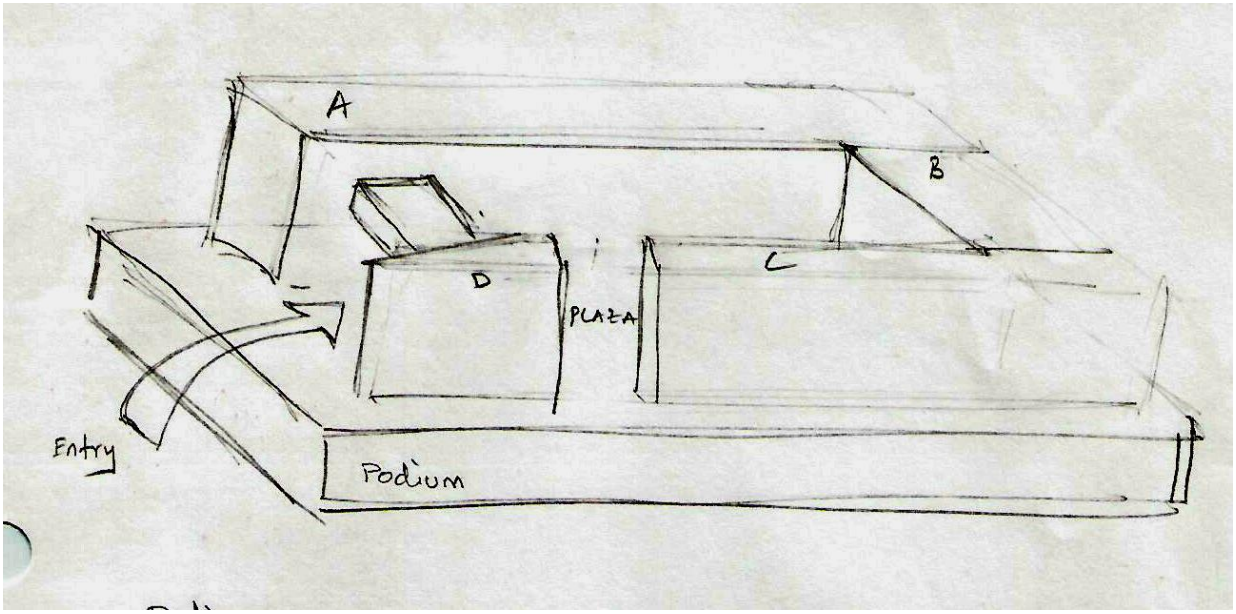


fig 23

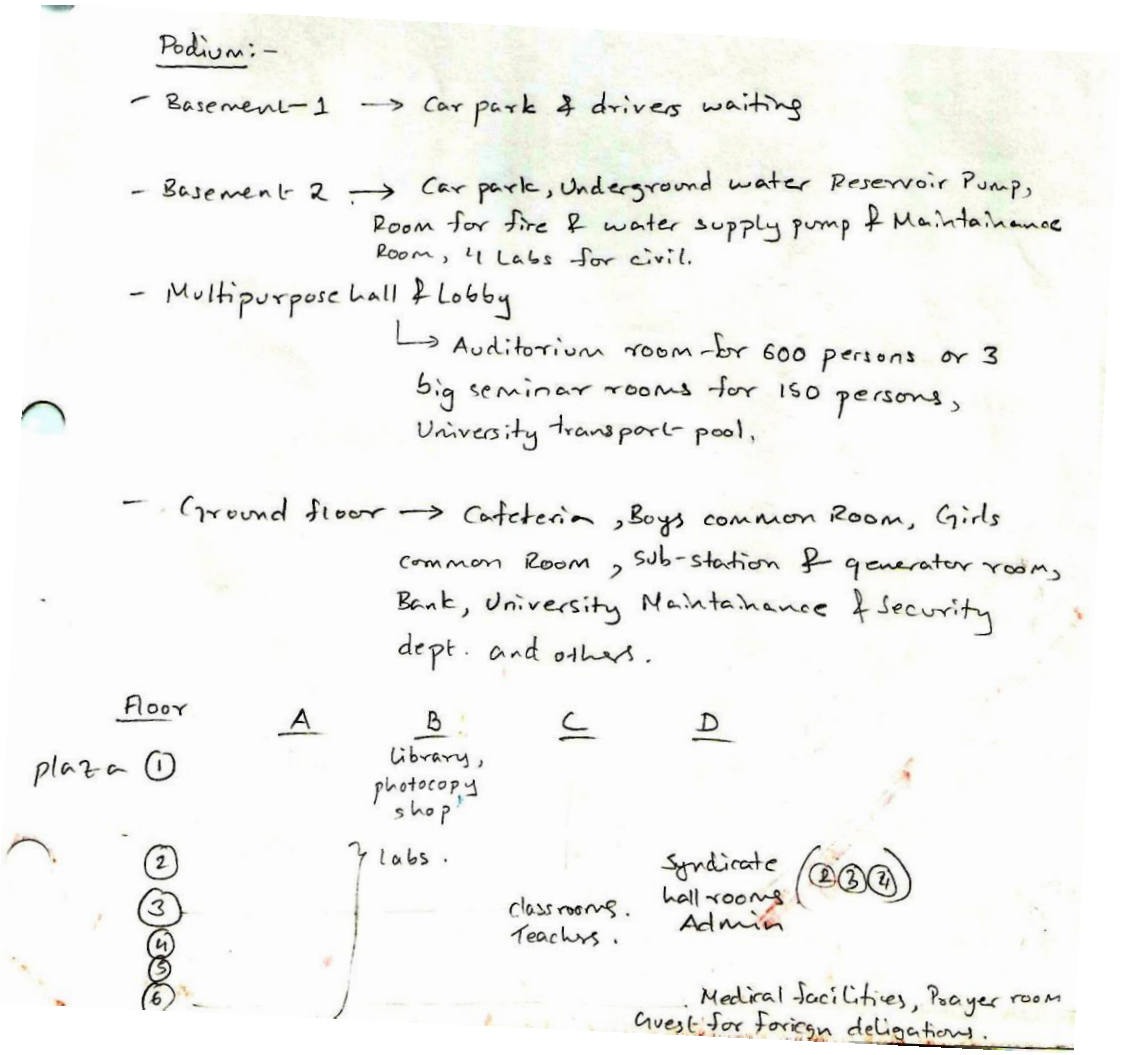

Podium:-
- Basement-1 → Car park & drivers waiting
- Basement 2 → Car park, Underground water Reservoir Pump, Room for fire & water supply pump & Maintainance Room, 4 Labs for civil.
- Multipurpose hall & Lobby
→ Auditorium room-for 600 persons or 3 big seminar rooms for 150 persons, University transport pool.
- Ground floor → Cafeteria, Boys common Room, Girls common Room, Sub-station & generator room, Bank, University Maintainance & Security dept. and others.
Floor
A
B
C
D
plaza (1)
Library, photocopy shop
(2)
(3)
(4)
(5)
(6)
labs.
classrooms. Teachers.
Syndicate hall rooms Admin (2)(3)(4)
Medical facilities, Prayer room
Guest for foreign deligations.

fig 24

CHAPTER 5

LITERATURE REVIEW

This Chapter paraphrases and synthesizes various literature by inverted pyramid method starting from Dhaka city as a metropolitan down to the specific concept, theory and style relevant to designing the college.

1.1. The Metropolitan

Dhaka, being the capital and thus the center of governance, commerce and education, is a rapidly urbanizing mega city, with an ever increasing population density. This is partially due to the constant influx of landless rural poor, who see it as a source of higher income. Thus Growth of the city's residents has resulted in expansion of infrastructure and housing. New neighborhoods, demand more educational institutions.

A similar neighborhood seems to be growing along the Mirpur ceramic road as shown in the last chapter. A public college, is to be built here. Hence this paper aims to explore how the school can thrive in the developing environment, serving both the students and the general public inclusively. This is achieved through a research on a few similar colleges in the city and also with comparative analysis to a few foreign examples.

1.2. The Ministry of Education

The country is still developing, in terms of transport, infrastructure, socio-economy, crime management, politics and education. Amidst all these developing factors, development in the educational sector seems to be a vital component. Here, although the curriculums are constantly being revised, exams rethought and teachers going through much more screening than before to be assigned, certain factors such as school and college environments are being overlooked. The Ministry of education states that Human Resource development is the driving force of the economy. They work by the principal that by providing quality education human resources are transformed into human capital, which will augment and uplift the economic activity of the country and contribute to nation and country building, but quality education must

be provided with a quality environment. Even our great poet, Rabindranath Tagore said that a school should be established in an open place, with peace and tranquility, where students will get fresh air and a fresh mind. Every pupil and student grows into a different person. Numerous individualities are to develop, if we want to see diversity in national productivity. Hence a good learning environment is essential to influence and inspire in a million different ways.

1.3. Psychological Impression

Dhaka city is currently expanding to all its suburbs, forming new neighborhoods. Such extensions are necessary for the ever increasing population of the capital. This raises the demand for more schools. On top of the population and traffic issues, the government has decided to defy the neighborhood principal that says that there must be a school within a 10 minute walking radius and that schools must serve their respective neighborhoods. Now the government assigns students to colleges based on a list, that is set according to the pupils results. On the other hand amidst the constant increasing demands in various urban factors, the city continues to develop with imbalances in socio-economy and infrastructure. Crime, insecurity and political violence often threatens this precarious state. Growing up in such a hassle filled environment, gives no space for proper moral psychological development of an individual.

College and degree students in Bangladesh are young adults. This is the age when a person goes through important socio-emotional development as well as cognitive development. They develop a sense of critical thinking, moral reasoning, a sense of individuality and a sense of responsibility. Thus placing a college in a mixed social context, molds the psychological mind into thinking inclusively. The site is located is this exact context.

The DMDP plans did not have any designated plans for this area. Most of the area here is close to a rural setting, as there is a lot more green and ponds. Rehabilitation areas, houses many of the low income squatters. the rest of the area are plots and is predicted to extend similar to Mirpur Dohs. The area is majorly residential, with proposals for retention ponds as planned in FAP-8B. Thus other than the light traffic, the site is very quiet, ideal for a school environment. Until now the site seems to be very different compared to other colleges in

dhaka. The functioning of a few other colleges, in terms of their urban placing and internal facilities for its users is studied in later chapters, to criticize and learn from their designs.

1.4. Rabindranath Tagore philosophy

The poet was against conventional didactic schooling in India, when he decided on creating 'Shantiniketan'. He said that a child first began his/her learning by learning language, which is an instrument of expression full of indefinable ideas and abstract symbols. This was the first stage of learning and the most fun, where the child absorbs in its own way from the surrounding, but the second stage of learning is bare, confined within walls and books. He described schools as education factories, where children were imprisoned into learning insensitively second-hand knowledge. In his opinion, children would have to learn from the real world, from nature and acquire the skill of comprehension, not having discovery burned into their memory, but discovering for themselves in their own way. Thus he recommended more integration with society and nature.

1.5. Pedestrian continuity

The following has been summarized from Francis, T (1992), Making people friendly towns

There are many pedestrian obstructions from inconsiderate traffic layouts and based on buildings formations and locations. On the street, both pedestrians and cyclists are vulnerable to hazards. Apart from the harmful fumes and noise pollutions, the risk of accidents while crossing a street is inevitable. Even in space reserved for pedestrians, obstacles to safe, comfortable walking come in many forms- posts, poles, bollards, seats, litter-bins, advertising features and tubs, broken paving, puddles, litter, debris and sometimes even large holes. Also, the clutter of cars and its environmental impact is to be considered.

Buildings tend to be a large block that prevents easy flow of pedestrians. Successful street level urban environments are permeable to pedestrians. Building forms which are based on arcades, passages and courtyards draw people through and between them and are interesting

to walk and look at close to eye-level. Some degree of shelter from bad weather is generally welcome, together with convenient, safe opportunities to cross busy roads.

People often find enclosed pedestrian environments and underpasses or bridges rather uncomfortable, disorienting and alienating. They prefer to remain at ground level and in spaces open to the sun, rain and sky. Thus people and activities must be kept close to street level. Bridges, decks and subways are being demolished in many cities. Clear pedestrian pathway requires main spines consisting of landmarks or marker buildings, facilitating physical and visual linkages by encouraging street level activities by adjoining buildings, design continuity through paving materials, street furniture and public art, by special or enhanced street lighting or floodlighting of buildings, by establishment of green or landscaped linkages along the routes. Tall buildings and corner buildings with memorable features are particularly useful to assist or guide pedestrians through the city.

The solution to the increasing numbers of cars in cities is not an increase of roads. Roads are environmentally damaging and colossally expensive, environmentally damaging and poor value for money. Traffic and congestion always fills up roads.

Moving facilities that generate a lot of cars towards the suburbs would reduce the economic viability of the town centers.

policies of constrains-people cannot take their cars right into the hearts of towns and cities. Public transport is good for the economy as a whole.

It is important to ensure that we provide variety and choice in access to different activities, resources, information and places for all sectors of the community. Urban areas need to be accessible to all, regardless of age, ability, background or income. They should offer choice in terms of mobility and access to different activities, buildings and resources.

Towns and cities are about human contact. Town centers provide opportunities to bump into people. Increased people interaction.

Escapism-places to see and things to do are different from their day to day lives.

It must be the interest of the community as whole to encourage and facilitate shared thinking amongst various players of the community.

Legibility of an urban area is also very important.

CHAPTER 6

TIMELINE AND EVOLUTION

1.PALEOLITHIC AND NEOLITHIC

During the Paleolithic era, people lived in temporary shelters and moved around a lot. They hunted for survival, education was not part of their lives.

During the Neolithic era humans invented agriculture and started making tools out of metal instead of stone. Permanent buildings (homes) started to be built, as well as towns.

1.1.BYZANTINE

Buildings increased in geometric complexity. Brick and plaster used in addition to stone of public structures. Classical orders were used more freely. Mosaics replaced carved decoration. Complex domes rested upon massive piers and windows filtered light through thin sheets of alabaster to softly illuminate interiors. People were obsessed with Religious buildings and education was spread through apprenticeship.

1.2. ROMANESQUE

Along with the evolution of Architectural features, there were three main building typologies where these changes were adopted: Churches, Monasteries and Castles. The monasteries were designed as microcosm, as the city of God. They had a Church, a Cloister, a Chapter room, a Abbot's house, a Monks/nuns room, a Refectory and a hospital.

1.3.GOTHIC

Dark age-Invading barbarians brought their own architecture. Skeletal stone structures. Visual arts were important including the role of light in structures. In terms of symbolism, there was scholasticism and cathedrals served as an image of heaven. No architecture of an educational institution was seen.

1.4.RENAISSANCE

eg. Vestibule of the Laurentian Library by Michelangelo Buonarroti

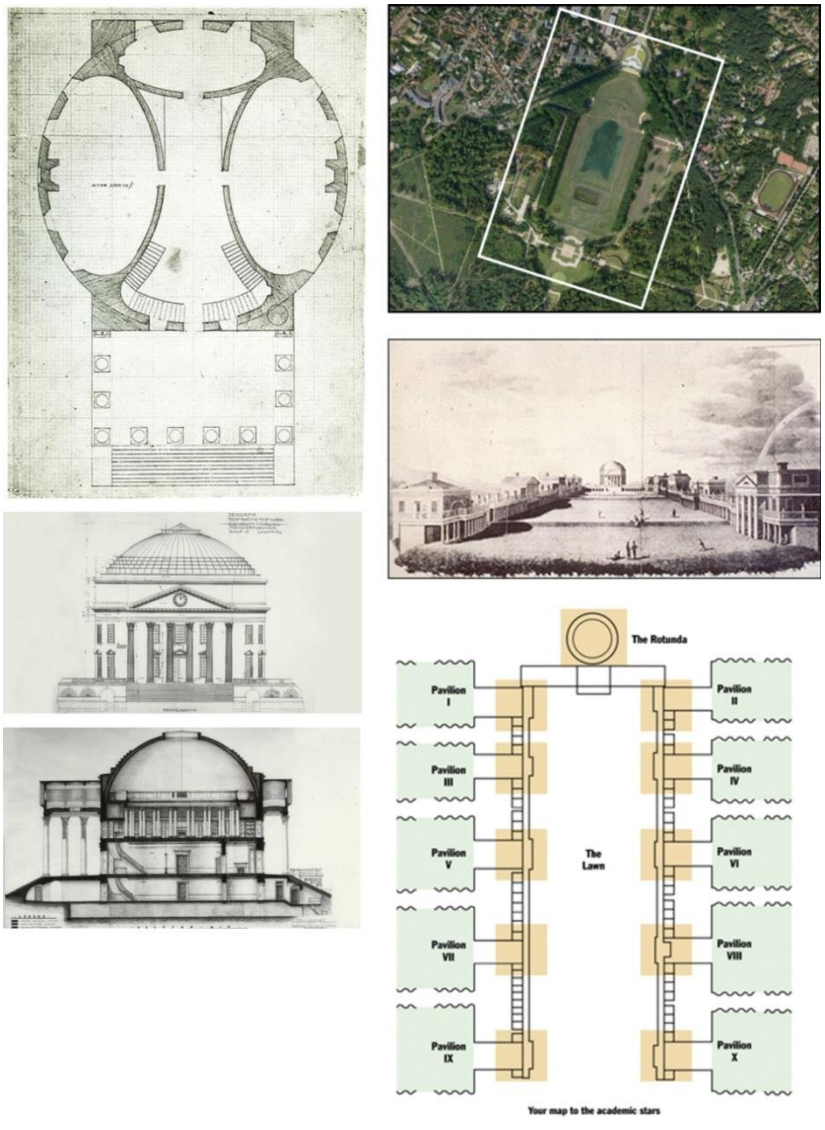
1.5.BAROQUE

It was an era of religious and political conflicts, geographic colonization, scientific developments and new astrological discoveries. Architecture during that time expressed colour and light contrasted, rich textures, Asymmetrical spaces, diagonal plans, new subjects of landscape, genre and still life. eg. Chateau de Maosons near Paris by Francois Monsart (1642)

1.6. ROCCOCO

Consisted of complex compositions, ornamentation and fussy details. Gaiety, lightness and airyness portraying the carefree life of aristocracy.

2. NEOCLASSICAL ARCHITECTURE (REVIVALISM)



UNIVERSITY OF VIRGINIA BY THOMAS JEFFERSON (1918):

Large Open spaces as classrooms, many small buildings were designed, instead of one large building, to prevent outbreak of diseases.

This was an icon and later universities built in the US followed its styles.eg. the central plaza.

The university is renowned for its rotunda, with its glorious immense lawn.

fig 25

2.1.VICTORIAN ARCHITECTURE (Cast iron, Arch supporting roof)

2.2. ART NOUVEAU (new art)

Ornamental style of art, free of imitative historicism.

2.3.EARLY MODERN ARCHITECTURE

Brought about by the Industrial revolution. Iron frame Architecture. Less is more. Minimalism. Form follows function. Simplicilty.

2.4. EXPRESSIONIST ARCHITECTURE

Typical trait is to present the world solely from a subjective perspective distorting it radially for emotional effects in order to evoke moods or ideas. eg. Einstein towers, Sydney opera house, Guggenheim Museum.

2.5. ART DECO

Modernism turned to fashion. Cubic forms, ziggurat shapes, complex groupings of rectangles or trapezoids, bands of colour, zigzag designs, strong sense of line, illusion of pillars. eg, Empire state building, golden gate bridge.

3.MODERNISM

Less is more. Minimalism. Form follows function. Simplicilty.

3.1. BRUTALIST ARCHITECTURE

Raw concrete. Dynamic geometric style that is massive, monolithic, blocky in appearance, typically poured concrete. eg.Shangshad Bhaban

3.2.STRUCTURALISM

eg. Montessari School Deft, NHL University Leeuwarden, Faculty of science university of Utrecht

3.3. SUPER ARCHITECTURE, METABOLISM, REGIONAL ARCHITECTURE

4.POST-MODERN ARCHITECTURE

4.1. Deconstructivist Architecture (*Deconstructivism)*

Primary Stylistic Features

- Unrelated forms.
- Abstract in nature.
- Smooth exterior surfaces.
- Contrast of shapes and forms.
- Large expanses of a single material (glass, metals, stones, etc.).

Secondary Stylistic Features

- Window frames often hidden in the walls.
- Simple metal frame doors.
- Exposed materials.

fig 26. The Michael Lee-Chin Crystal addition to the ROM, designed by Daniel Libeskind

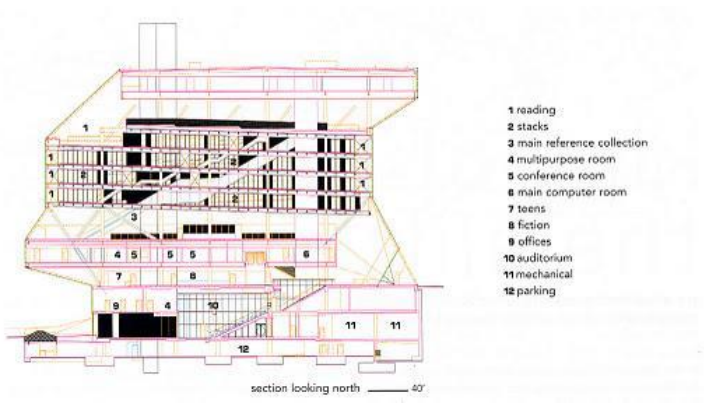


fig 27 and 28. seattle central Library seattle (USA) designed by OMA

4.2. Biomimicry

Imitating nature

fig 29. Milwaukee Art Museum - Calatrava

fig 30. TGV Exupery Train Station, Lyon - Calatrava

4.3. Parametricism

Style evolved from digital animation techniques.

fig 31. Zaha Hadid's Heydar Aliyev Centre

4.4. Contemporary Architecture of Bangladesh

VITTI Sthapati Brindo Ltd:

Wood sun breakers and windows at a depth in the south to provide view , shield from the scorching sunlight , while capturing wind from the south east.

fig 48

Architect Shamsul Wares (vacation house)

Influence of Eisenman Architecture, proportions derived from the golden ratio both in plans and in elevations.

fig 49

4.5. Sliding wood Louvers to be implemented in design

fig 50

http://www.archello.com/sites/default/files/imagecache/header_detail_large/044Tamiluzfoldablesliding

CHAPTER 7

FUNCTIONAL DEVELOPMENT

This Chapter lists the specifications, considerations and elaborate functions within the proposed framework of programs, which are as headings.

1.1.Client requirements:

- Playground/ fields

-Monument

-Classrooms

-Labs

-Teachers staffroom

-Kitchen/Dinning

-Amphi/Auditorium

-Library

-Boys dormitory

1.2.Additional Function proposal:

A nursery or day care for working mothers or students with babies.

1. Admission:

office

Examination

Isolation

2. Childrens rooms

Playing

Eating

Sleeping

3.Play areas

Outdoor play

4.services

Architect should know the community he serves by considering as parts of his/her total responsibility the following:

1. The nature of the total community setting and its people.

2. The character of the neighborhood surrounding the site.eg. high density multi-family, single family, mixed users, obsolete, declining, stable or growing and the presence of significant environmental influences such as air or noise pollution.

3. The projected rate of growth, if the community is developing as an indication of phased construction of the school.

1.3.Flexibility of design:

eg. Illinois institute (Mies Vander Rohe)

Bauhaus analysis

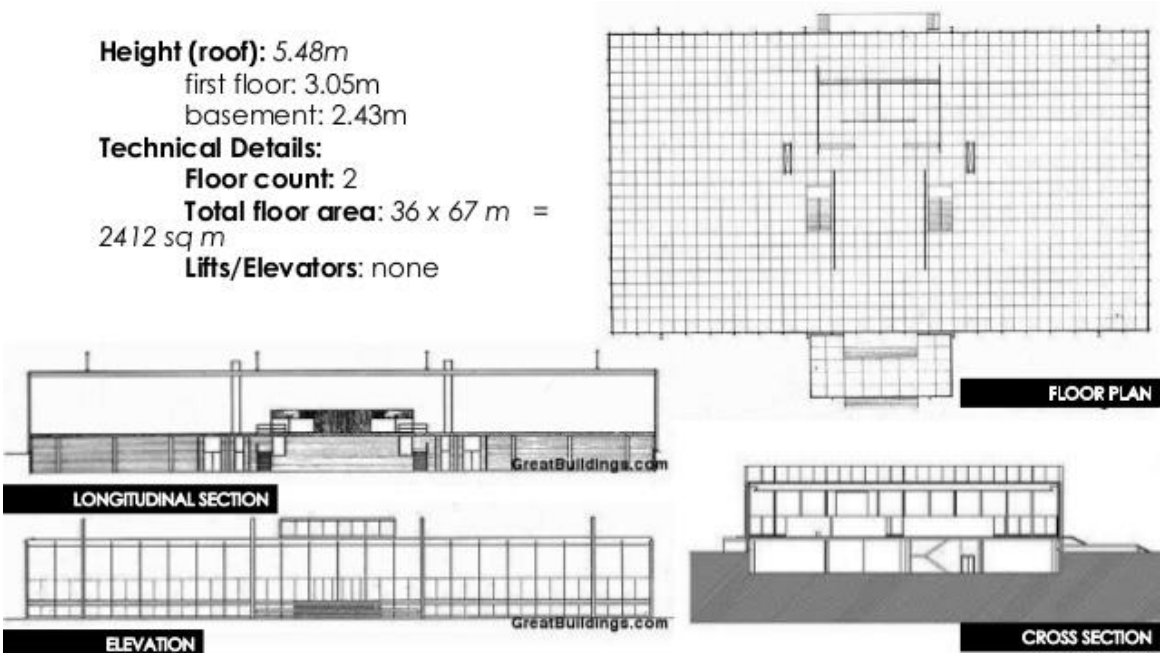


fig 32

1.4.Administration Suits:

Accounts room

schedule managers room

schedule supervisors room

control room

Principals room

chairman's room

Vice-principals room

Small conference room

1.5.Classroom requirements:

Multi-use - Exam room capacity

Stage/chalkboard must be full legth of the board

Desk types

Gallery classroom size

Normal classroom size

lux/lighting

Acoustics

Storage/ shelves that may be needed

Front/stage

4' X 4' for each student

1.6.Multi-Pupose Rooms/ Halls

Assembly/ Cafeteria/ Gymnasium

1.7.Student Lockers

QUESTIONARE FOR STUDENTS

Are lockers required?

Majority answered: Not needed

1.8.General Science Rooms and Biology Laboratories:

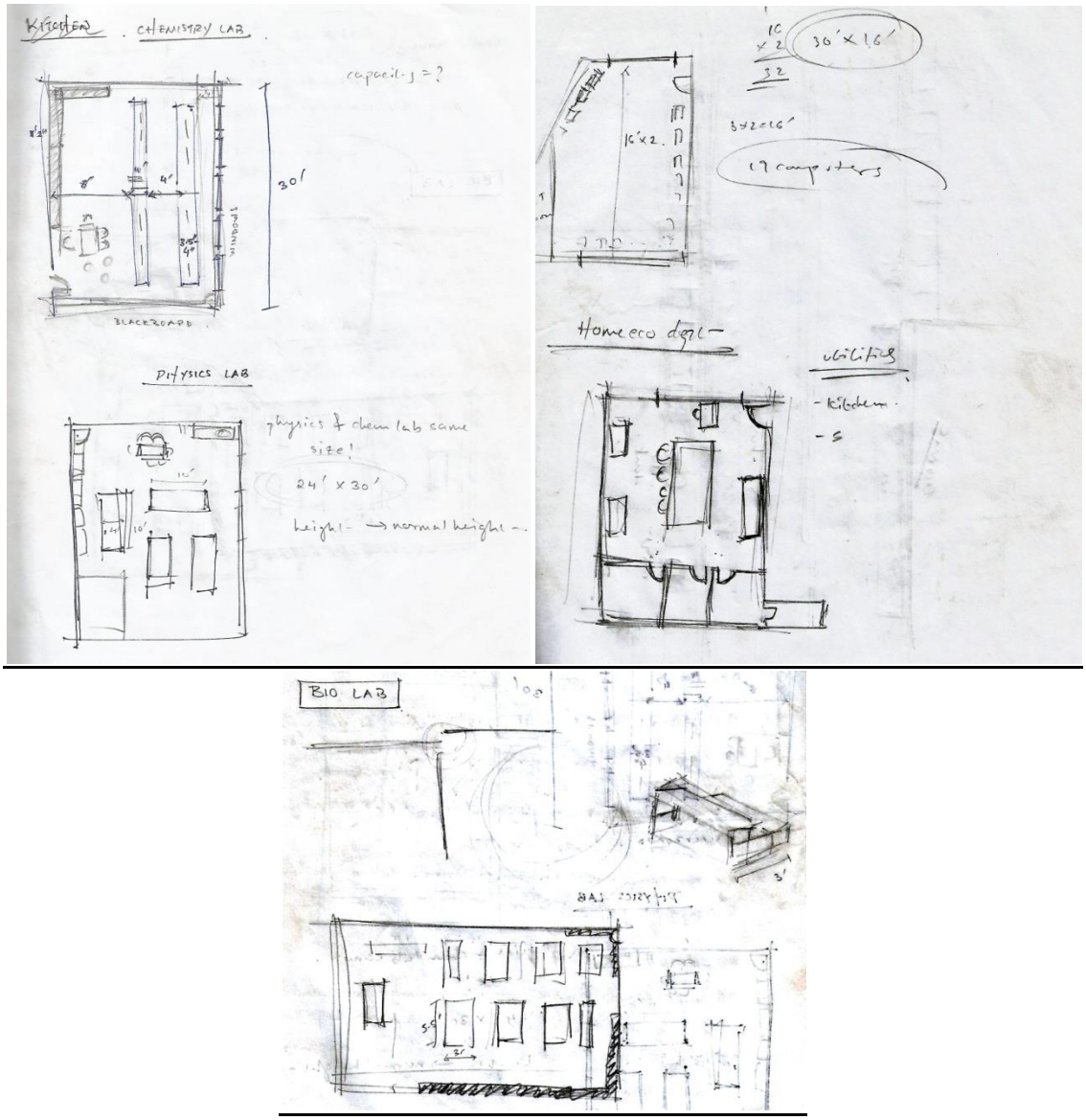


fig 33. Layouts from shidheshori College university

1.9.Home Economics Lab

Survey of Equipments

Counters (types)

Ergonomics of student activities

2.0.School Lunch Program:

Cafeteria

Kitchen

2.1.Sports:

- Gymnasiums

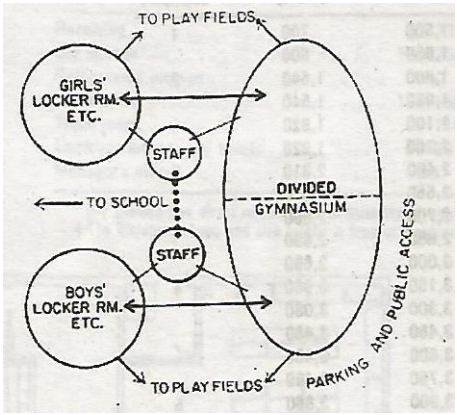


fig 34

- Tournament Field

- Field loads before and after school hours

2.2.Dormitories:

eg. Le corbusier, laturrete

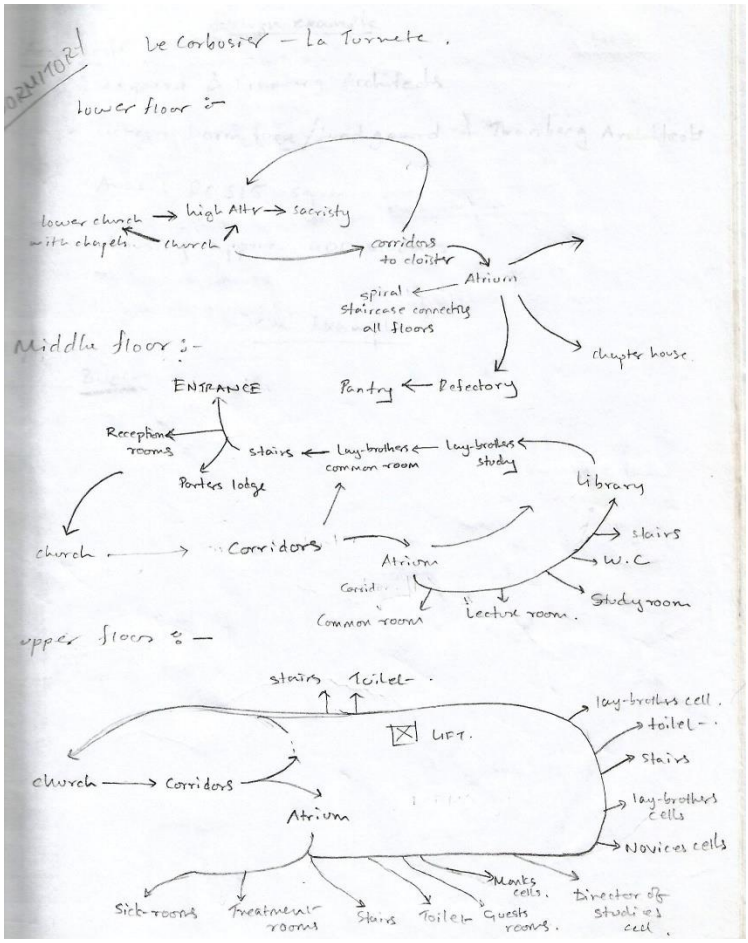


fig 35

3 types of suit organization

Combined social and study rooms, separate sleeping

Separate rooms for study, sleeping and social

Gang Bathrooms

Types of Dormitory arrangements

Ratios of Circulation to gross area

Considering the disabled

2.3.Libraries:

eg. Phillip exeter Library

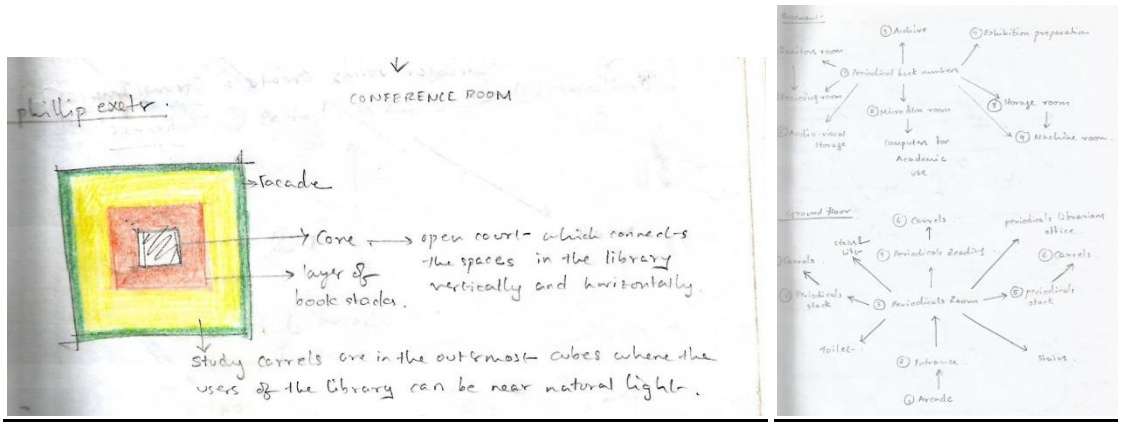
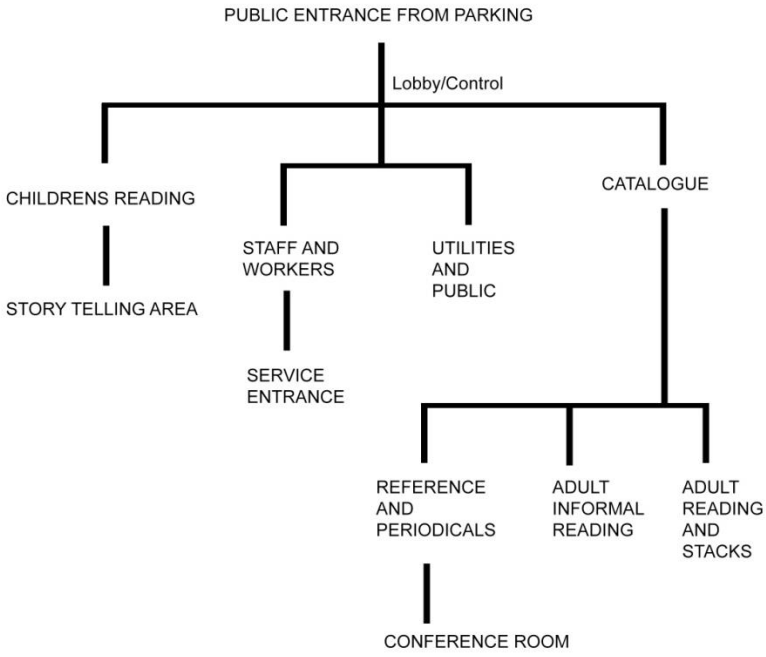


fig 36



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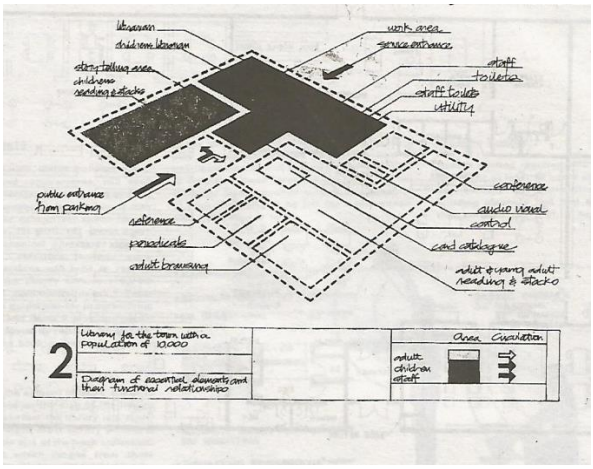


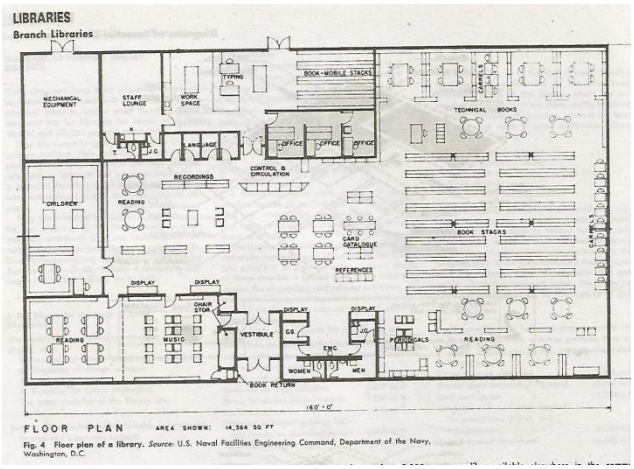


Fig. 4 Floor plan of a library. *Source:* U.S. Naval Facilities Engineering Command, Department of the Navy, Washington, D.C.

fig 38

CHAPTER 8

FUNCTIONAL FLOW CHART

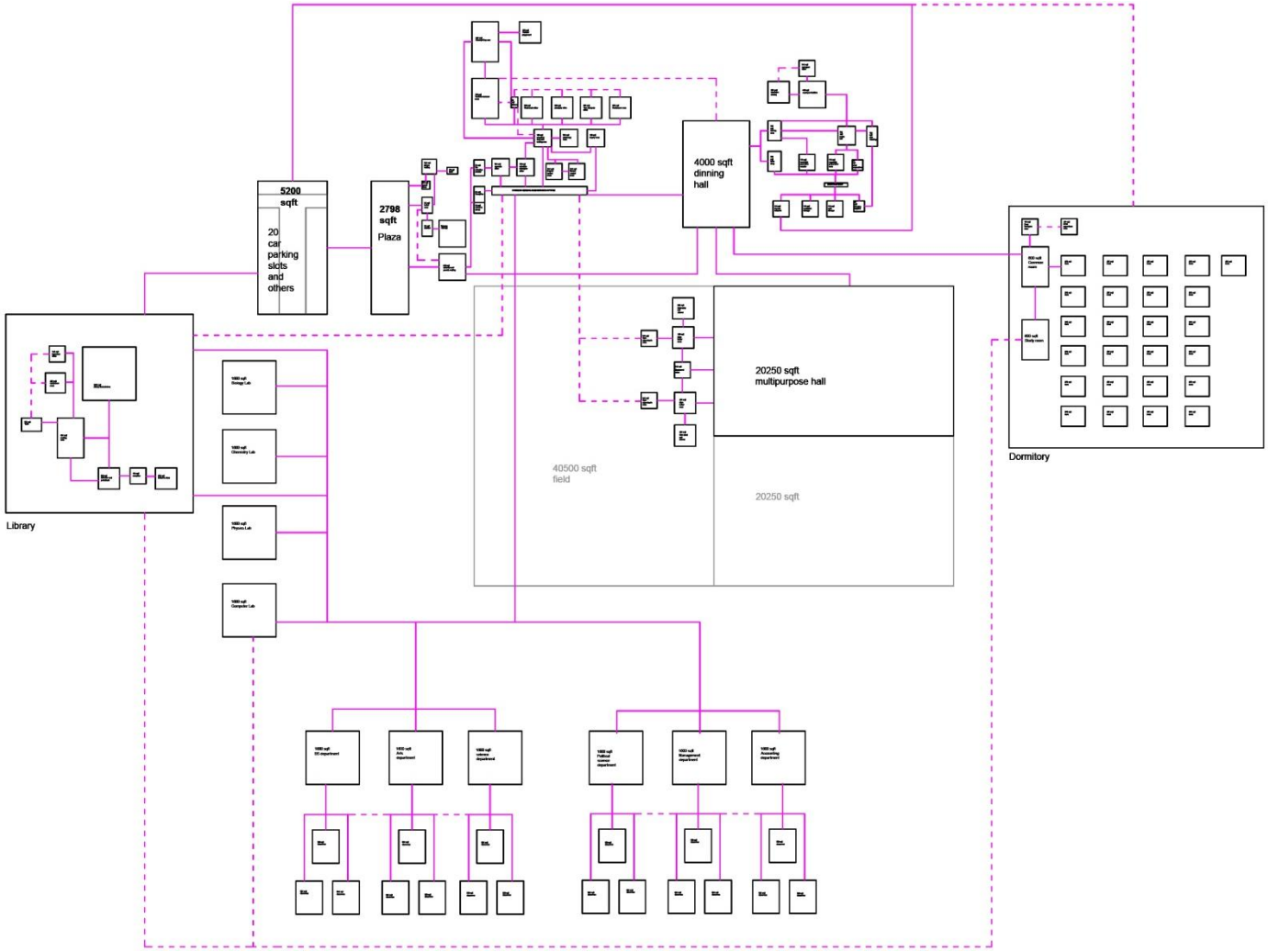


fig 39

CHAPTER 9

MASS MODEL (depicting initial Idea)

Stage 1


fig 40 and 41

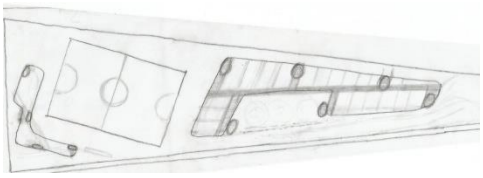
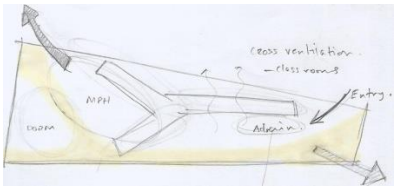



fig 42 and 43

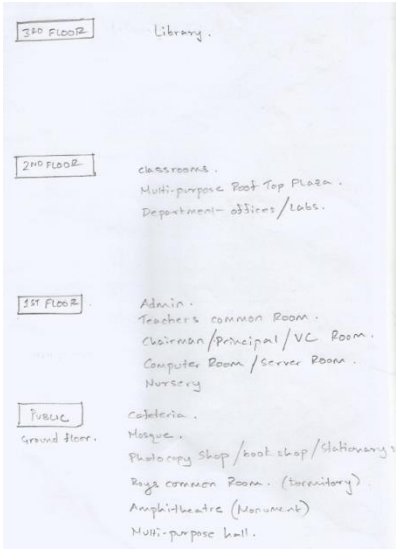


fig 44

After feedback

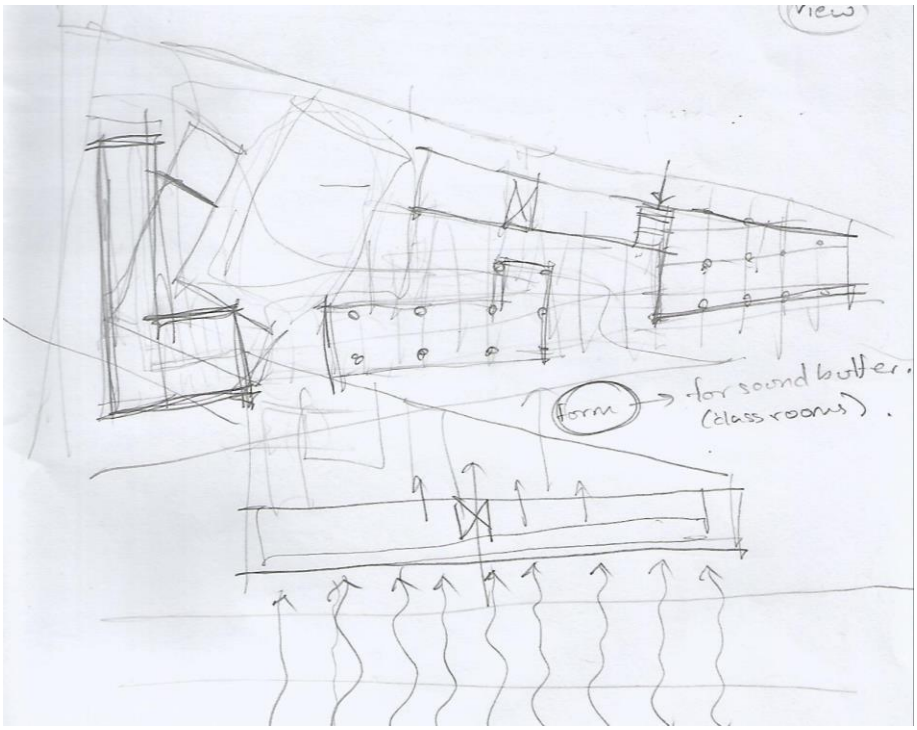
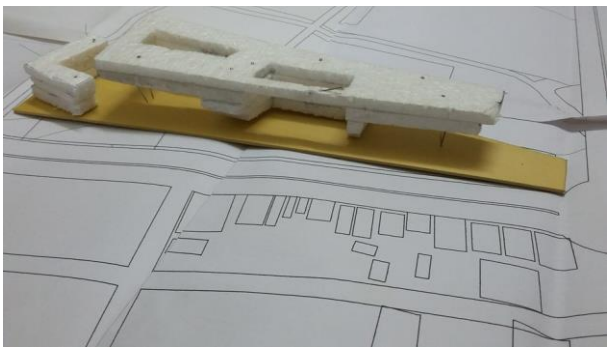


fig 45



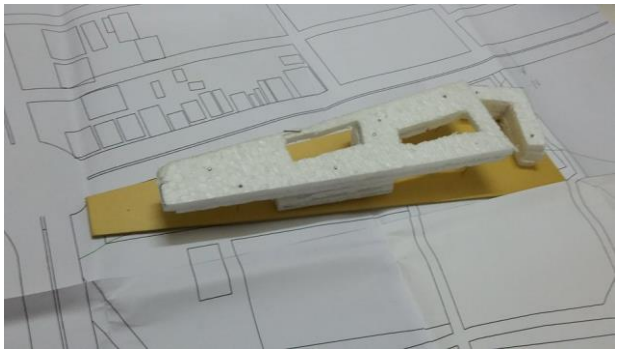
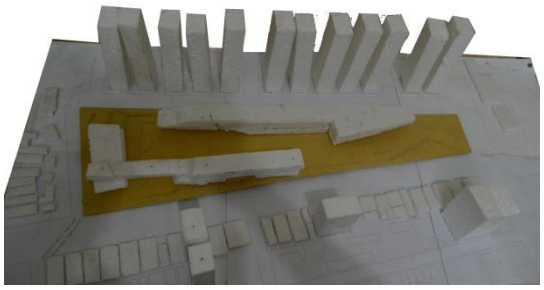
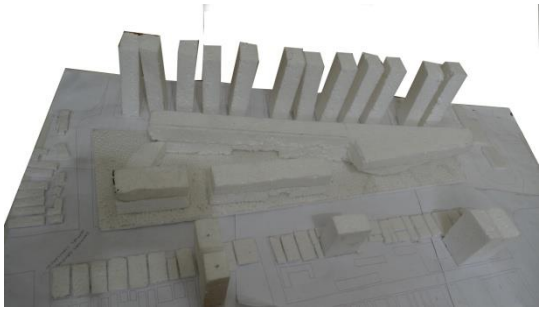


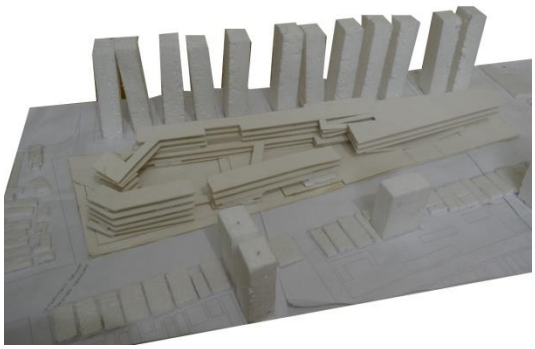
fig 46 and 47

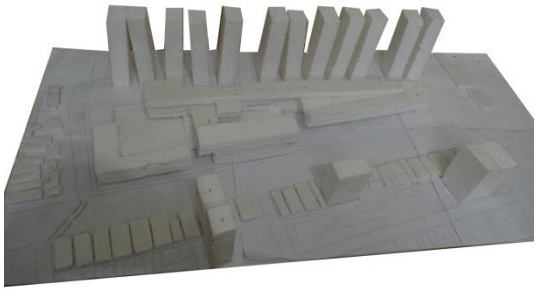
CHAPTER 10

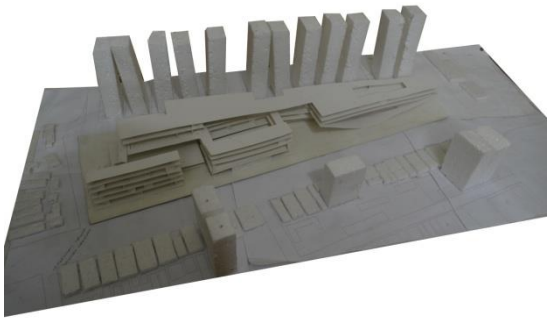
DESIGN DEVELOPMENT

1. 

2. 

3. 

4. 



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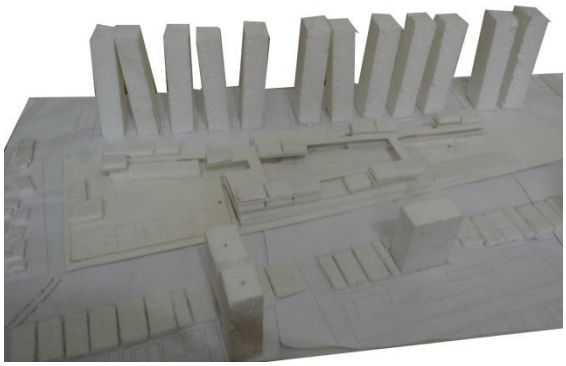

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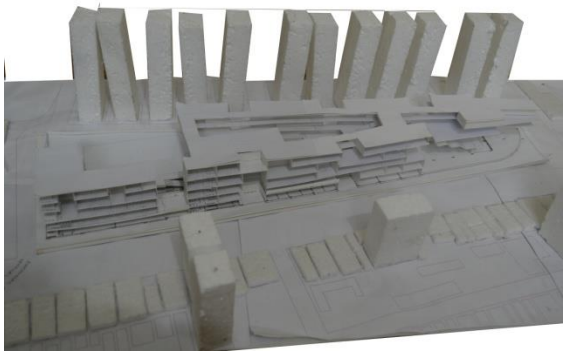

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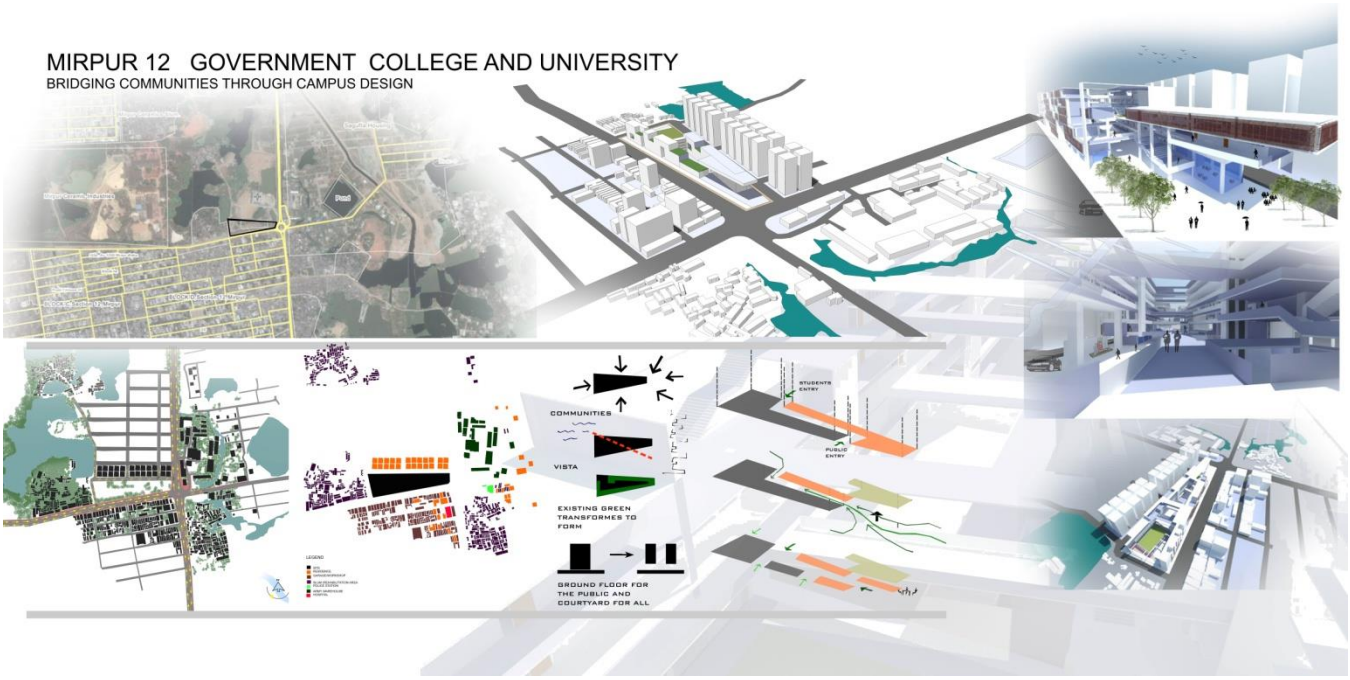
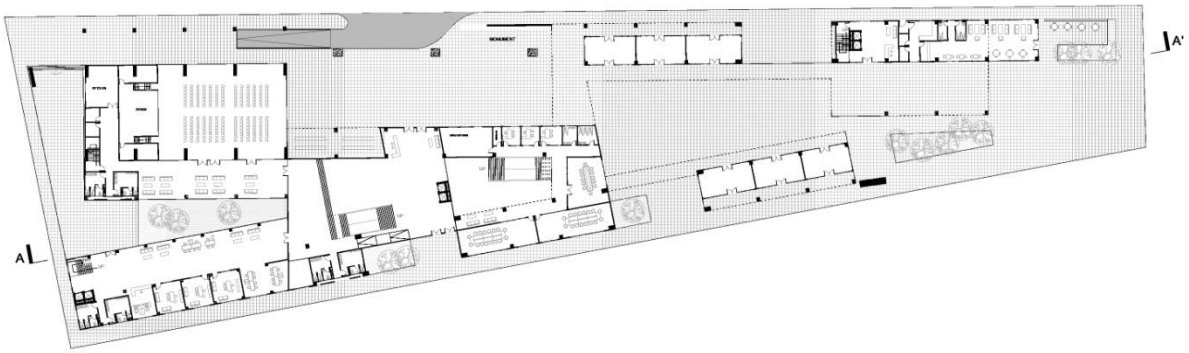
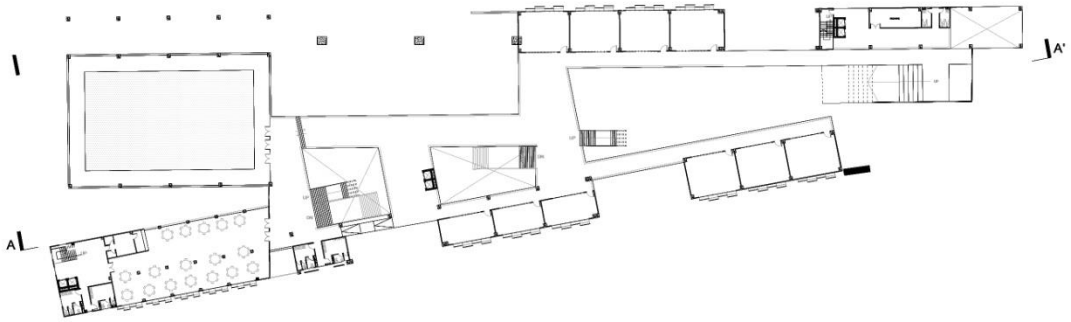
CHAPTER 11

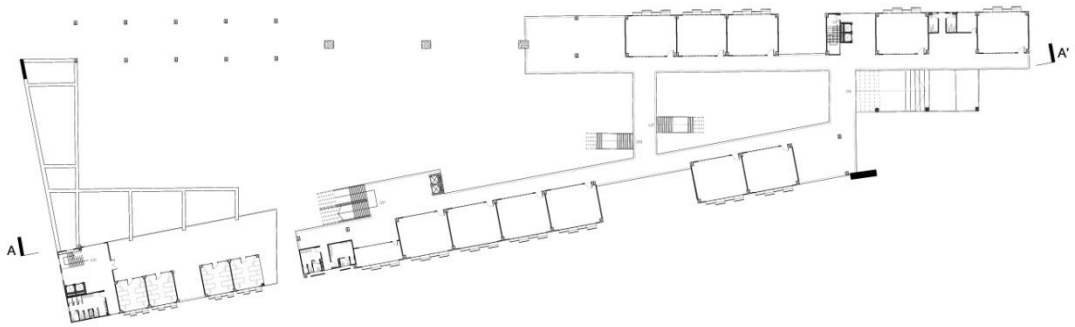
FINAL DESIGN







FIRST FLOOR



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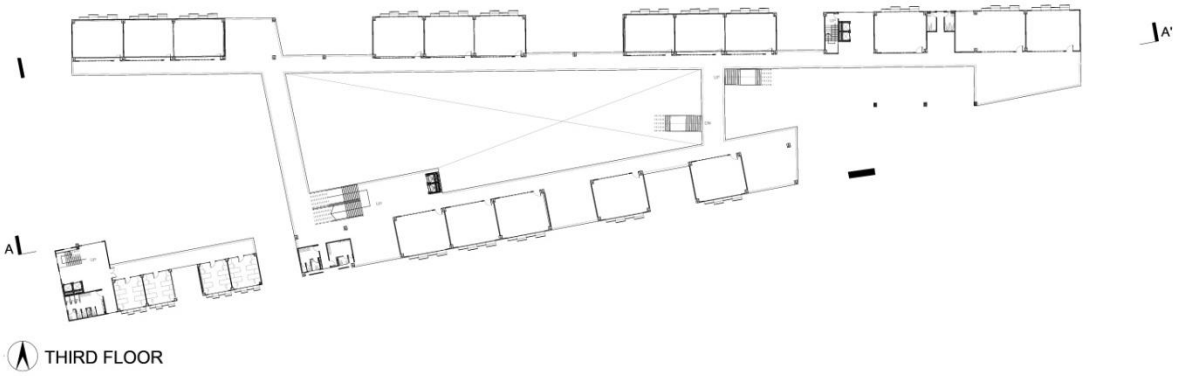

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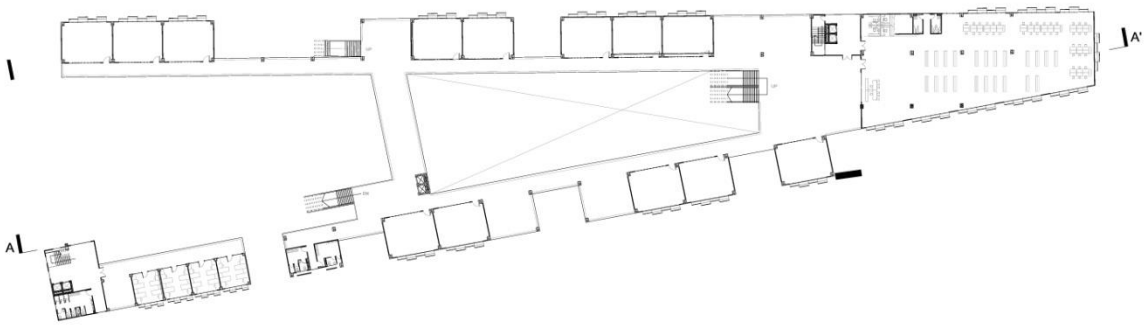

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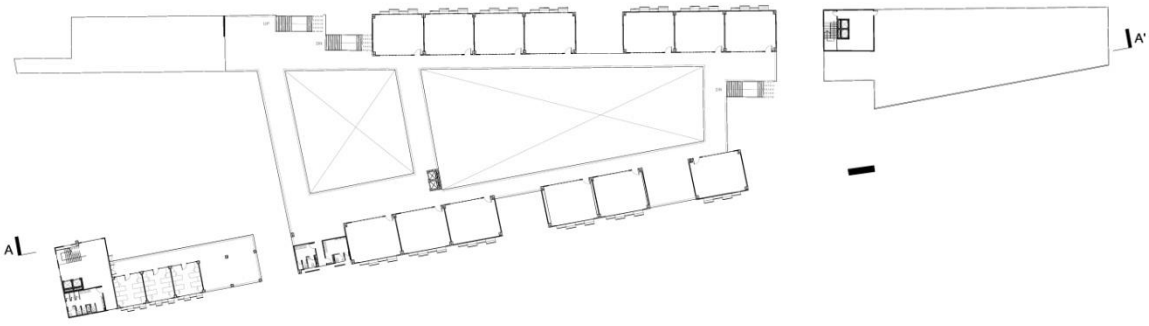

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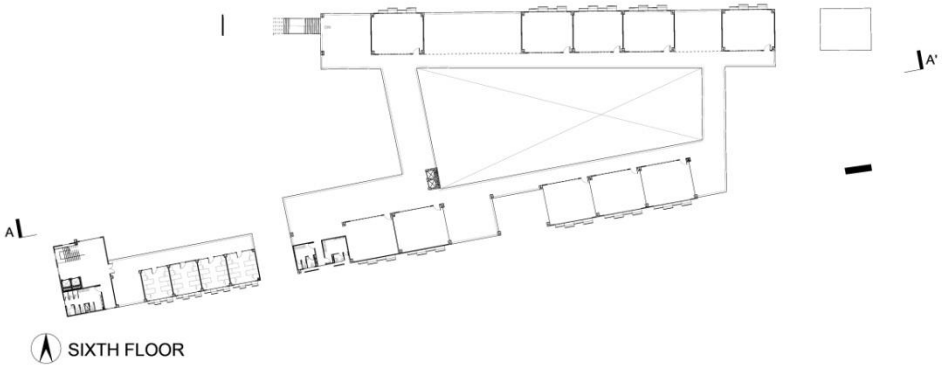
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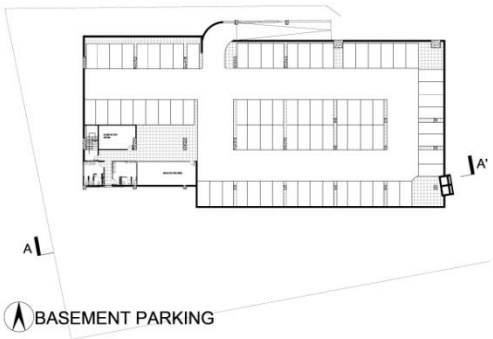
SIXTH FLOOR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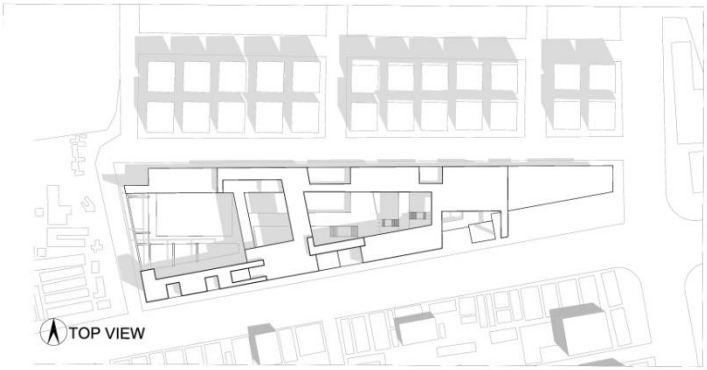
BASEMENT PARKING


TOP VIEW

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